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ABSTRACT

This document presents the final evaluation of the second phase of the Community Action Programme for Education and Training for Technology (COMETT), which was called COMETT II and ran from 1990 to 1994, and centered on cooperation between universities and industry regarding training in the field of technology. Included are the following: overview of the program's primary objectives and four strands; description of the program's main activities; transversal themes; and evidence confirming that COMETT II was a major success. Two appendixes constitute more than 90% of the document. The following topics are examined in the first appendix, which is the full text of the final evaluation report: context, emergence, components, operation, and evaluation of COMETT II; networking and the university-enterprise training partnerships formed during COMETT II; training actions; mobility of people within COMETT; transversal themes (cooperation and links with other European programs; research and development and training and innovation; participation in COMETT II by type of organization and its impact on small and medium enterprises and on regions; industry-university cooperation; and the sectoral bottom-up approach); and COMETT II's effectiveness and future development. The second appendix is a synoptic view of COMETT II by member states of the European Union. (MN)

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COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 16.09.1996
COM(96) 410 final

REPORT FROM THE COMMISSION

COMETT II

The Final Evaluation Report

(Presented by the Commission)

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1. Introduction

This report concerns the second phase of the COMETT Programme, COMETT II (1990-1994). COMETT II is the successor programme to COMETT I (1986-1989), the ***Community Action Programme for Education and Training for Technology***. COMETT II was adopted by Council Decision 89/27 EEC of 16 December 1988, OJ n° L 13/28 of 17.1.1989. Article 6 of this Decision requires the Commission to submit a final evaluation report on the experience and results of COMETT II, by 30 June 1995, to the Council, the European Parliament and the Economic and Social Committee.

This document is the Commission's report which fulfils this requirement. It is mainly based on the synthesis of a large number of evaluation and monitoring documents produced over the programme's lifetime, in particular the last two years. Given the range of activities developed under the COMETT programme, this report can only provide a concise overview of what has been, in fact, a very rich and varied Community initiative - of which the main elements have been safeguarded under the new LEONARDO DA VINCI programme.

The key achievements of COMETT II

Five Calls for Applications have been organised between 1990 and 1994; the projects submitted requested a Community contribution totalling almost 1.2 billion ECU.

The selection procedure led to the acceptance of some 3000 projects, leading to:

- the creation of over 200 University-Enterprise Training Partnerships, covering nearly all European regions, as well as many technology and sectoral areas
- the organisation of some 40 000 transnational exchanges of students, graduates and personnel
- the organisation of almost 10 000 advanced training courses, attended by a quarter of a million Europeans
- the development of more than 4500 training materials, of which over one third were software or video based.

These projects have

- involved over 30 000 organisations from 19 European countries, including the entire higher education sector, over 20 000 companies (of which over 3/4 were SMEs) and some 5000 other types of organisations
- covered training needs in virtually all technology and related areas
- often been a catalyst for cooperation and innovation much beyond the COMETT programme itself.

Moreover,

- a unique European network structure has been created, which is capable of organising efficiently annually thousands of transnational industry-university exchanges - notably student placements - and international advanced short courses
- cooperation with other European programmes in the field of education, training, R&D and innovation has been a red thread through the programme
- much greater awareness and understanding has arisen of the benefits of industry-university cooperation for advanced education, and for technology transfer
- both the quantity and the quality of advanced training supply has increased, in particular in peripheral areas, thus contributing to European competitiveness
- the added value of cooperating within a European programme like COMETT has become recognized in universities, and to a lesser extent, firms.

2. COMETT - an overview

One of the most important issues for the future economic and social development of the European Union is its ability to harness the fruits of its research efforts for the development of innovativeness and quality in its industries. COMETT, the European Union Programme on cooperation between universities and industry regarding training in the field of technology, has developed since its inception in 1986 with these and related issues as its focus. Its message has been that advanced training and the acceleration of higher education-industry cooperation are core technology transfer mechanisms for the industrial valorisation of our R&D efforts.

COMETT I ran from 1986 - 1989 with a budget of 50 million ECU and COMETT II from 1990 - 1994 with a budget of some 230 million ECU. Both were centred on transnational university-industry cooperation in advanced technology education and training. The main objectives specified in the Council Decision for COMETT II were to:

- improve the contribution of advanced technology training to the economic and social development of the Community
- foster the joint development of training programmes and optimum use of training resources through the creation of transnational sectoral and regional networks of advanced technology training projects
- respond to the skill requirements of SMEs
- promote equal opportunities for men and women in advanced technology training,
- give a European dimension to cooperation between universities and industry in advanced technology training.

COMETT consisted of four, closely related, component strands:

- Strand A: the university - enterprise training partnerships (UETPs) operating both on a regional and/or sectoral basis. Essentially, they were joint consortia of higher education institutions, enterprises and relevant other organisations.
- Strand B: the transnational mobility programmes. Strand Ba concerned student placements in enterprises of other countries; Strand Bb covered advanced long placements of graduates, and Strand Bc supported exchanges of university personnel to enterprises of vice versa.
- Strand C: the training projects. Strand Ca supported short training courses, Strand Cb joint training projects, and Strand Cc the large pilot training projects.
- Strand D: complementary measures, such as surveys, evaluation and monitoring.

COMETT was the first major European education and training programme in which the EFTA countries took part.

The programme was closely monitored and several external evaluations took place during its lifetime. This Final Evaluation of COMETT draws mainly on these and related documents from the ongoing internal monitoring activities.

3. Networking

The Council Decision called for a European network of university - enterprise training partnerships (UETPs) to be set up which would (1) contribute to the identification of training needs and their solution, (2) meet those needs on a structured and coordinated basis, (3) provide a support structure for activities such as placements for industrialists, staff and

students, (4) strengthen cooperation and inter-regional transfer within Europe in developing and applying technical training, (5) develop transnational sectoral networks.

The European network created consists of some 200 UETPs. These UETPs represented some 12 % of the total programme grants. The average UETP budget was of the order of 180 000 ECU, 25 % of which was covered by COMETT. The UETPs are essentially of two types. Regional UETPs bring together universities, enterprises and other interested parties within a geographic area. Sectoral UETPs bring partners, from different Member States, in a particular technology or industry, together. Both types of UETP were expected to liaise and cooperate with similar projects across Europe. Thus, two types of network have developed. Internal partnerships within the UETP and external, European-wide networks of cooperation.

The two main contributions of regional UETPs have been (1) to develop the local and regional interfaces and infrastructure associated with university - industry cooperation, and (2) to integrate this regional infrastructure into the first European-wide cooperative network dedicated to furthering the European development of university-industry cooperation in continuing education and training. Sectoral UETPs have contributed more directly to technology transfer and industrial training development. Their clientele were seen as a more homogeneous group with more similar technical requirements. This has made work such as training needs analysis, drafting of State-of-the Art reports and the formation of "European Working Groups" particularly relevant and easier to undertake for such types of UETPs.

Firms were positive about the UETPs' role as a conveyor of information, linking firms to higher education and advising on European programmes. In this context, some point to UETPs having acted as a sort of "clearing house", drawing existing studies together, defining methodological approaches, choosing training options, etc. as well as consolidating and articulating the demand from SMEs. Particularly important have been the effects of UETPs in stimulating a transnational outlook among the partners. In the higher education sector, an international exchange on training methodologies and teaching systems as well as contacts with firms abroad hosting their students have taken place. For firms, a wider access to the European training potential and a greater awareness of the European dimension of R&D and technology have resulted.

The European dimension of both regional and sectoral UETPs has been their greatest strength. This European dimension ranges from UETPs' direct contact with the Commission and knowledge of Commission Programmes, to expertise in applying for and managing European projects, to their core strength as part of a well structured, dedicated European operational network. Their second axis of strength lies in their network of domestic, regional or sectoral members. Regional UETPs often have sectoral specialities and sectoral UETPs and their nodes are often involved in regional infrastructure.

Generally, UETPs now have an accepted role (some much stronger, some much weaker) in their domestic higher education-industry interface and indeed in the wider skills supply-demand interface.

The fragility of the financial base and the lack of industrial involvement were the two main difficulties confronting the UETP network. This weakness and insecurity of the financial base of most UETPs is seen as the main weakness. It entails a sub-critical size for the

UETP and limited numbers of staff as well as difficulties in realistic, long term planning.

Finally, the networking in COMETT was developed at two levels. At the project level, networks between partners in a UETP or joint training project were developed. But also between projects a network effect emerged. Here, UETPs and their partners cooperated with other UETPs, and cross-fertilisation and cooperation between projects took place. Thus, the UETPs were only the most visible aspect of the COMETT networking activities.

4. Training Actions

The Council Decision on COMETT II indicated support for advanced training activities in three specific areas:

- for crash training courses with a European dimension in advanced technology
- for devising, developing and testing, at a European level, joint training projects
- for distance learning utilising new training technologies and/or resulting in transferable training products

Calls for Applications for short courses (Strand Ca) took place each year. From 1991, the Calls were on a "pool" basis, i.e. grouped and submitted by UETPs only. Calls for joint training projects (Strand Cb) took place in 1990 and 1992. A number of joint training projects were invited to submit detailed applications to become eventually pilot projects. In all, just over 2000 applications were made, divided evenly between organisation of "pools" and joint training projects. Application was made for over 400 million ECU, but only 101 million ECU could be awarded. The major areas covered by COMETT II training projects were advanced manufacturing, information and communications technology, environment, materials, health & safety, training (methodology and technology), and innovation management.

Two types of partnership have been established to carry out COMETT training activities:

- UETPs, acting as coordinators for Ca-pool project submissions and contracts
- consortia established specifically for a particular training project.

COMETT training projects had a wide spread of international partners and typically worked in two or more European languages. Over 80 % of courses involved trainers from other European countries. More generally, the European dimension was the base for genuine European value-added, resulting in particular from the improvement in quality due to the opening up of course development to a wider pool of expertise across national borders. Some of the first mechanisms for quality assurance across national frontiers have been developed. Regional poles of advanced training competence in Europe have become better known and more accessible to all Europeans.

In all, COMETT courses were seen by trainees as directly relevant, as a way of updating their technical knowledge and as relevant to work. The final national evaluations pointed to the improvement in course quality achieved due to access to international resources and the integration of industrial participation at an early stage.

5. Mobility of People

The objectives of the COMETT mobility activities were the simultaneous promotion of (1) transnational cooperation, (2) industry-university collaboration, (3) technology transfer and, (4) advanced education and training. To achieve these objectives COMETT provided

support for three types of activity:

- Strand Ba: students or young graduates undergoing periods of training ('placements') in industry in another participating State.
- Strand Bb: advanced long training placements for graduates.
- Strand Bc: fellowships for personnel from universities to go to firms or vice versa.

The major allocation of funds went to Strand Ba placements. In all, some 36 000 students were supported during COMETT II; the annual numbers rose from 3800 in 1990 to almost 8000 (out of 33 700 applications) in 1994. An estimated 15 000 companies have benefited once or more from these placements: the equivalent of 20 000 years of human resources input.

The typical placement lasted 5 to 6 months and received and average monthly grant of 430 ECU. These operated under the "pool" system from 1991. The average pool size in 1994 was 50 placements for regional and 30 for sectoral UETPs. Some 80 % of total placements went through regional UETPs.

Strand Bb was for the support, on an experimental basis, of long placements - up to two years - for advanced industrial development and training projects, with monitoring from both a university and the enterprise. Applications were low and the few placements selected were carefully monitored. By 1992, it was apparent that they were little different in nature from Strand Ba or Bc, and no further calls for applications took place.

Strand Bc for the mobility of staff between universities and enterprises saw a total of 1900 applications and some 800 awards during COMETT II. Their average duration was 4.5 months with an average support of 7000 ECU for the period. Some 2/3 were university personnel; also some 2/3 of recipient companies were SMEs. The Strand was organised on the pool system from 1991.

The COMETT student mobility programme has been a major success. They have been highly beneficial for:

- enterprises, which have evolved a placement culture and have received a transfer of technology through the student. SMEs have often been involved in their first European programme
- students, who have improved language abilities, cultural understanding, professional prospects and their innovatory capabilities
- higher education institutions, which have been catalysed into developing placement requirements and mechanisms and have received feedback which has encouraged them to update courses and teaching techniques.

Results of personnel mobility activities, Strand Bc, have been encouraging, despite not having the same success or interest as the student placements. European university-industry links have been strengthened. The programme has shown its applicability to SMEs and most projects have shown a strong transfer of ideas, concepts and technologies between those who have participated.

More generally, COMETT placements have helped in developing new modes of technology transfer and provided new models for human resource updating and recycling - so important in lifelong learning. At an organisational level, COMETT developed the unique pool system as an efficient and decentralised mechanism for undertaking placements.

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6. Transversal Themes

This Final Evaluation Report of COMETT also examined eight transversal themes:

(1) Cooperation and links with other European programmes. This is important in making COMETT a coherent part of European policies for human resources. This liaison has taken place extensively along two axes:

- links with R&D programmes such as DELTA, ESPRIT, BRITE-EURAM, and SPRINT; these were considerable in number, but a need was felt for better and structural coordination at policy level with these programmes.
- links with education and training programmes, such as ERASMUS, FORCE, LINGUA and TEMPUS, which are both more common and more direct.

(2) R&D, training & innovation. COMETT's Council Decision required it to develop effective mechanisms for the development of R&D through education and training, to enterprises who can benefit from it and exploit it commercially. Those units, institutions or UETPs which have done this most successfully have those who have been able to offer the full spectrum of technology transfer activities to companies. The contribution of COMETT to social and organisational innovation should also be acknowledged: the development of networks, the organisational and operational changes induced in participating universities and enterprises.

(3) Participation in COMETT. Over 30 000 organisations across Europe have been directly involved in projects:

- universities have had the most extensive participation: in most projects in all Strands, university people were the driving force
- 20 000 enterprises were involved in COMETT, more than half through student placements; companies most directly involved in training projects were predominantly service providers
- some 5000 other organisations such as public authorities, professional organisations, etc., in general closer to the enterprise than the university culture; this non-restrictive interpretation of the notion 'university' and 'industry' has enriched the programme in terms of the quality of project and multiplier role, particularly to SMEs.

(4) The impact of COMETT on SMEs. 15 000 out of the 20 000 enterprises participating in COMETT are SMEs with less than 500 employees. Half of these have less than 50 people. Mobility actions have been particularly attractive to SMEs. The level of involvement in training projects and UETPs was variable. The variety of activities within COMETT was helpful to SME participation. It should be noted that at least another 20 to 30 000 SMEs also benefitted from COMETT through attendance at courses.

(5) The regional impact of COMETT. This has occurred at two levels: the intra- and the inter-regional:

- Particularly within the less favoured regions, and mainly through the UETPs, COMETT has provided a legitimate meeting ground for higher education, industry, and other interested private and public bodies. From this forum, other regional initiatives have developed, further strengthening local infrastructure.
- Inter-regional cooperation has been strengthened in areas well beyond COMETT activities. Again, UETPs have been central to the process, providing a structured, responsive

and easily identifiable contact point for those seeking partners. In addition, mobility actions have opened up regions to a much wider European influence.

(6) Equal opportunities for men and women. Although this general objective did not have a specific dedicated activity specified within the Council Decision, an increase of female participation in student placements from 36 % in COMETT I to 43 % in COMETT II occurred. In courses, female participation fluctuated around 22 % representing the underlying industrial population distribution. Female project staff were well represented in Strand A and B.

(7) Industry-university cooperation. Its promotion has been a core success of COMETT, increasing the industrial application of R&D, improving the qualifications provided by universities and transferring technologies between sectors and regions. Cooperative relations have been instigated in some cases and systematised in many others. COMETT has fostered a common awareness within both parties of the importance of such cooperation, and, more generally, of the major European value-added of such activities on a trans-European basis.

(8) The sectoral bottom-up approach. COMETT adopted this principle of non-prioritising for giving full reign to the university and industrial potential within participating States. This has resulted in the selection of projects which were predominantly technology based rather than oriented towards a particular industry. This is probably due to the strong university participation and the R&D-transfer emphasis of the programme. That said, such an approach has permitted continual change and innovation in the projects being proposed.

7. Conclusions

The primary conclusion is that the Programme has been a major success: the major strategic requirements of the Council Decision establishing COMETT II have been fulfilled. COMETT has:

- improved the contribution of advanced technological training through its incorporation in experiential learning associated with industrial placement, the improvement of the quality of courses and widening their availability, the development of local and regional university-industry cooperation interfaces and the creation of a European level interface, and the advancement of economic and social cohesion within Europe
- fostered joint development and the optimum use of training through the integration of industry into the joint development of courses, the improved utilisation of technical training as an integral part of the technology transfer process and the improvement brought about in the calibre and accessibility of training
- developed activities supportive of equal opportunities for women in training and technology development.
- made an important and direct contribution to SMEs, through (1) student placement activities which have accelerated their technical and economic development and their integration into the wider European market, and (2) short courses which have improved the development and management of their technical skills
- provided major European value added through its development and internationalisation of placement activities, its development and creation of international networks dedicated to improving university-industry cooperation, and its strong integrative and cohesive effect, in economic and social terms, across the European advanced higher education scene.

While COMETT II has been an undoubted success, from the weaknesses emerge a number of approaches, areas and activities which initiatives at European level may need to consider:

- the transition of a training to a learning based approach
- the move to put technical elements for learning in a wider skills acquisition strategy
- the growing importance of the application of quality assurance in training
- the integration of technology training in a wider technology transfer approach
- the advantage of more structured cooperation between European programmes
- the need to help project coordinators achieve quality in training project management.

Annex 1

COMETT II

The Final Evaluation Report

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COMETT Terminology

Below are listed the main COMETT-specific terms used in this document. Clarifications of other terms are given throughout the report.

Call This term is used to refer to a Call for Applications. Within COMETT II, five ***Calls*** were issued (1990, 1991, 1992, 1993, 1994). Only in 1990 could projects be submitted in all COMETT categories by any organisation; the ***Calls*** from 1991 to 1994 were restricted to certain types of projects and/or certain types of organisations.

Strand The term used in COMETT to refer to a programme category and project type. There are four operational ***Strands*** (A, B, C and D), each of which contains two or more sub-categories or types of projects (also commonly referred to as ***Strands***).

Transnational Used as a synonym for 'international' when referring to European countries.

Project All initiatives supported by the COMETT Programme under one of its Strands are called ***projects***. At a minimum, a project needs to involve one higher education institution and one company from two different EU countries. The types of projects supported are:

Strand A	University-Enterprise Training Partnerships ("***UETPs***")
Strand Ba	Transnational student placements in enterprises
Strand Bb	Transnational long graduate placements
Strand Bc	Exchanges of staff between higher education and industry
Strand Ca	Advanced short courses
Strand Cb	Joint training projects (development of courses and training materials)
Strand Cc	Training projects with emphasis on structural impact ("***Pilot projects***")
Strand D	Complementary measures (studies, reports, conferences, evaluation and monitoring, ...).

Pool system An operational mechanism within the COMETT programme in which small project applications are grouped into one submission, then awarded a single contract for a set of applications and decentralised operational management.

Enterprise Used interchangeably with terms such as "***company***", "***firm***", "***industry***" to refer to any organisation exercising some economic activity (notably those employing staff with some need for training)

SME Small or Medium-sized Enterprise. With the simple definition used within COMETT, in line with Commission practice, this signifies companies with less than 500 employees.

University Any type of organisation delivering recognized education at a high level.

Course A structured training event, typically involving face-to-face teaching.

Material (or "***training material***") A support medium for courses or for learning through ~~self~~-study.

Sector Used as a generic term for classifying projects by subject area or discipline. COMETT ***sectors*** include both technology areas and industrial sectors.

1. Introduction to COMETT

1.1 Context

The 1990s will be remembered as a decade of dynamic developments and transformation, both political and economic, which changed the map of Europe. In parallel, we witness an unprecedented and increasing pace of technological change. In the light of the growing competitive pressures and the globalization of markets, it has become even more important to be able to harness the fruits of research efforts and make sure they are effectively applied to the benefit of European society. Indeed, Europe's economic and societal model, which attempts to reconcile relatively high wages with responsiveness to social demands, requires a highly efficient and competitive industry. This will depend increasingly on the capacity of enterprises for continuous innovation and systematic quality improvement.

The key to this lies in *education and training*. Increased attention at local, regional, national and European level is required for the development of human resources, for effective use of education resources and for making training available where needed. At European level this implies that cooperation between training and education organisations from different Member States has to be encouraged and that greater synergy has to be achieved between efforts in research and development and advanced education and training. It also requires enterprises and higher education institutions to work closely together in the development and organisation of appropriate advanced education and training activities. And finally, it asks individuals, organisations and education systems to accept and actively pursue the concept of *lifelong learning*.

These and related important challenges for Europe have been underlined in the European Commission's *White Paper on Growth, Competitiveness and Employment*. Indeed, this document pays much attention to the importance of human resource development to improve Europe's competitiveness. The White Paper stresses the importance of the application, transfer and dissemination of R&D results, and highlights the need for intensified cooperation between education institutions and enterprises.

Similar themes have also been developed by *IRDAC*, the Industrial Research and Development Advisory Committee of the European Commission. In its recent publication on the challenges for Europe's education and training systems, *Quality and Relevance*, IRDAC underlines the importance of securing a strong link between R&D and training initiatives, both at national and European levels. Already in its 1991 report, *Skills Shortages in Europe*, IRDAC had argued that European R&D investments would not yield the anticipated economic benefits if they were not matched by equally substantial and relevant education and training efforts. In *Quality and Relevance*, IRDAC extended its analysis to the broader needs of enterprises for remaining competitive in a rapidly changing environment. Industry-education cooperation emerges as the overall recommendation, in addition to a strong plea for lifelong learning and linking R&D and education efforts.

The European COMETT programme has been concerned with these and related concerns since its inception in 1986. The competitiveness of European companies is at the heart of the programme. The Council Decision on COMETT II states in its Article 3:

COMETT II aims at reinforcing training in, in particular, advanced technology, the development of highly skilled human resources and the competitiveness of European industry.

In the mid-eighties it had become obvious to European policy makers that insufficient advanced training risked becoming an important blocking factor to Europe's full harnessing of its R&D efforts. COMETT I was launched in 1986 by the European Community with the clear message that such advanced training was an efficient and effective means of technology transfer and dissemination, and that more dialogue and cooperation between enterprises and universities across Europe was required to make such training a success.

1.2 Emergence of the COMETT Programme

When the COMETT I programme became operational at the end of 1986, it was the first major European support mechanism for education and training projects. Its overall aim was - and has remained unchanged over the whole COMETT I/II period - to promote and support ***transnational industry-university cooperation in advanced technology education and training***. The programme came into being alongside the first outcomes of major European R&D programmes such as ESPRIT which had pinpointed the overriding importance of advanced training as a complement to R&D efforts and as a crucial factor for European competitiveness. There were many who, rightly, feared that otherwise advanced skills shortages would undermine the value of European R&D and were likely to threaten Europe's competitive position. COMETT was conceived in response to these concerns, as a programme which focuses on the development of highly skilled human resources and the delivery of advanced technology training. It required projects to be based on European cooperation and on collaboration between industrial and academic partners.

Despite its challenging objectives and the complexity of the projects supported, COMETT I raised tremendous interest throughout the European Community. The programme was largely over-subscribed and the initial funding - 55 million ECU - totally inadequate. Very soon, it became apparent that a second phase would be appropriate. Already mid-way through COMETT I, on 16 December 1988[1], the Council approved the decision for the COMETT II programme for the period 1990-1994, with an initial budget of 200 million ECU. COMETT II was not a radical departure from COMETT I, but predominantly a deepening and extension of the first phase.

The main focus and objectives of the programme as specified in the Council Decision on COMETT II are:

[COMETT] ... is centred on the changing requirements of industry and its personnel, requirements which necessitate complementary action both in the Member States and at

[1] Council Decision 89/27/EEC of 16th December 1988, OJ n° L 13/28 of 17.1.1989.

Community level. Through the training projects it supports, COMETT II will contribute to the utilisation and exploitation of the results, methods and tools of technology developed by Community policy for research and development. COMETT II will facilitate innovation and technology transfer as well as the balanced economic and social development of the Community.

In this context, the objectives of COMETT II are the following:

(i) to improve the contribution of, in particular, advanced technology training at the various levels concerned, and thus the contribution of training to the economic and social development of the Community;

(ii) to foster the joint development of training programmes and the exchange of experiences, and also the optimum uses of training resources at Community level, notably through the creation of transnational sectoral and regional networks of, in particular, advanced technology training projects;

(iii) to respond to the specific skill requirements of small and medium-sized businesses having regard to the priority measures set out in the Annex;

(iv) to promote equal opportunities for men and women in initial and continuing training in, in particular, advanced technology;

(v) to give a European dimension to cooperation between universities and industry in initial and continuing training relating to technologies and their applications and transfer.

1.3 Programme components and operation

1.3.1 COMETT Strands

The COMETT programme supports a variety of transnational activities involving the cooperation of enterprises and higher education institutions. Several types of education and training related activities are being supported, which all have in common that they set out to promote, on a trans-European basis, training for technology. There are four main interrelated components to the COMETT programme, each of which is designated as a separate ***Strand*** with its own funding arrangements. These areas of activity comprise:

- ***Strand A***: The development of the ***university-enterprise training partnerships (UETPs)*** operating both on a regional and/or sectoral basis. These UETPs are unique structures, each comprising several tens of higher education institutions, enterprises and other organisations in a joint consortium. In addition to their specific advanced training activities, UETPs have acted as the backbone of the COMETT programme through their support and active involvement in the projects supported under the other Strands, and through their transnational networking and exchange activities.
- ***Strand B: transnational mobility*** programmes for ***student placements*** in firms of other European countries (***Strand Ba***), advanced placements for ***graduates*** (***Strand Bb***), and transnational exchanges of ***personnel*** seconded from universities to industry or *vice versa* (***Strand Bc***). These mobility activities were almost exclusively managed by the UETP network.
- ***Strand C:*** the development and organisation of ***short training courses (Strand Ca), joint training projects (Strand Cb)*** and ***pilot projects (Strand Cc)*** in the field of technologies and their applications.

- ***Strand D:*** a programme of complementary measures which have been supported throughout the programme (information, evaluation, project monitoring, surveys, training to support projects, conferences and workshops, ...). Over the duration of the programme, the nature and focus of these measures has shifted in order to reflect the launch, mid-term and final stages of the programme. For example, at the beginning of COMETT II, much attention went to information provision and awareness raising, while at the end, the evaluation and monitoring measures grew in importance, as well as the support for specific UETP initiatives which helped them strengthening their management capacities.

With the exception of some measures under Strand D, all projects received funding on the basis of competitive tendering through Calls for Applications. In line with the specifications laid down in the Council Decision, the Community support:

- was limited to 50 % of project costs in Strands A and C
- was based on a ceiling and a flat-rate contribution per exchange in Strand B
- varied between 50 % and 100 % of the costs in Strand D projects.

1.3.2 Participation by EFTA countries

COMETT was the first major European education and training programme in which organisations from EFTA Member States (Austria, Finland, Iceland, Liechtenstein, Norway, Sweden, Switzerland) participated. Because of the financial contribution of these countries, the COMETT II budget rose from 200 to 230 million ECU.

The agreements between the European Community and each of the EFTA countries were ratified in time (with the exception of Liechtenstein) so that universities and companies from these countries could join the programme and submit projects already for the first Call in 1990. Austria, Finland, Sweden and Iceland were quite active from the start and brought in several high-quality projects; the other three countries missed the beginning somewhat but would make this up from 1991 onwards. By 1992, the involvement of EFTA countries was at the same level as the EU countries.

The participation of organisations from these countries was subject to certain restrictions, particularly that most projects needed to involve organisations from at least two Member States of the European Community. In reality, this was not a very difficult criterion since most COMETT projects include many partners from several countries. With the entry into force of the EEA agreement on the 1st of January 1994 most of the small differences in participation rules between EU and EFTA countries disappeared.

1.3.3 Calls for Applications

Support for COMETT projects was awarded after competitive tendering. During COMETT II (1990-1994) five Calls for Application were launched. Some of these calls were "open", while others were of a restricted nature:

- The first Call, in 1990, was an open Call for Applications, where European organisations were invited to submit proposals in all the different Strands of the programme. Negotiations with EFTA Member States had been finalised just in time so that organisations from these countries could join the programme.

- In 1991 the Call for Applications was restricted to the 158 UETPs which had been accepted under COMETT II in the 1990 Call. According to the conditions of this Call, each UETP could submit projects in Strands Ba, Bc, and Ca under the so-called "pool" system (see box below). Additional possibilities for funding arose through the launch of the 'Positive Actions' scheme (see box below) and the targeting of the new German Länder with a view of to quickly integrating them into the COMETT network.

- The Call for Applications in 1992 was an open one for projects in Strands A and Cb, to a large extent meant to complement the networks already developed. As regards Strand A, existing regional and sectoral gaps had been identified and publicised, and through the Call, almost all these gaps were filled. The pool system was continued for the other Strands, with the possibility for new UETPs to submit projects in these Strands as well.

- The Calls for Application in 1993 and 1994 were once again restricted to existing UETPs. Consortia which had been established in 1990 and for which no Strand A funding was available, were asked to assess their development potential and were given the opportunity to ask support for a limited number of critical development activities under the programme of complementary measures (Strand D).

The "Pool system"

Part of the COMETT budget and operation has been set aside for the so-called 'pool procedure'. Under this system, selected UETPs were awarded block grants for the decentralised management of a number of smaller projects. The pool procedure was introduced during COMETT I for the administration of student placement contracts; given its success and operational flexibility it was extended under COMETT II to cover student placements (Strand Ba), personnel exchanges (Strand Bc) and short courses (Strand Ca - from 1991 onwards).

The main characteristics of the pool system are the following:

- First of all, the pool system was exclusively for UETPs. This implied that through all Calls (with the exception of Strand Ca in 1990), only Ba-, Bc- and Ca-projects submitted through the UETPs were accepted. In practice, this required that the contractor of these projects was also the organisation responsible for the UETP. This exclusivity right was only possible because of the quality of the UETPs accepted, their capacity to set up and manage transnational projects, and their almost complete geographical and sectoral coverage.

- Under the annual Calls for Applications, UETPs merge all individual demands from members and interested parties into a single application. During this preparatory process, UETPs act as a filter and broker, so that only those projects remain which meet all COMETT requirements. All these proposals in combination are then submitted as a single project application.

- During the selection process, UETP proposals for pool projects are assessed and compared in terms of quality. This results in the allocation of a 'pool' grant to the UETP - in general with less support than asked for - which can be used flexibly over

the academic year for the organisation of student placements, personnel exchanges and short courses. The contract may, however, exclude the organisation of certain projects if these were considered to be below COMETT standards.

- During the contract period, the UETPs were given the opportunity to finalise the programme of pool activities, and possibly modify them (under certain conditions) if they were forced to do so because of the environment changes.

The pool procedure was introduced to facilitate and decentralise the operational management of the many smaller projects within COMETT. Another aim was to help UETPs in developing international cooperation and so strengthen the COMETT network as a whole. Both objectives appear to have been, to a large extent, fulfilled.

The Positive Actions initiative

In 1991 the Commission launched a series of actions, ***Positive Actions***, the main aim of which was to improve COMETT coverage overall and overcome some of the economic and social differences of the countries and regions involved in the programme. The first task was to analyse the gaps and weaknesses in the development of the COMETT network and on the basis of this analysis to identify actions that would strengthen and enhance the regional and sectoral UETP network. The actions which were launched can be listed under the following headings:

- ***National studies and promotion measures***, mainly meant to assist the coverage and penetration of COMETT in particular countries and regions, where the results of the 1990 Call for Applications had not been totally successful. This concerned Spain, Greece, southern Italy, Portugal, Switzerland, and Norway in particular. As a result, in the 1992 Call the results were highly satisfactory for most of these regions, particularly as regards the emergence of regional UETPs in areas hitherto not covered.

- ***UETP networking and training of UETP managers***. A number of activities were undertaken to promote the development of the UETP network and training of UETP managers (including a comprehensive analysis of their training needs).This marked the beginning of a number of special support measures for UETPs which continued beyond the Positive Actions initiative.

- The organisation of two specific ***conferences concerning student placements***, one in Lappeenranta, Finland and the other in Segovia, Spain. The main aim of these conferences was to promote and strengthen transnational student placements across Europe, an activity within COMETT where the demand was high. The outcomes were eventually integrated in a Guide on European student placements. The use of electronic mail and database to facilitate the daily work of placements managers was also explored.

- In the general context of ***targeting industry and SMEs***, three projects were supported to examine and improve industrial participation in COMETT. Although these studies were mainly based on specific cases and regions, they provided valuable insight into the way COMETT could be made more attractive to enterprises.

- Within the framework of the Positive Actions initiative, a special effort was made to improve the understanding of the ***sectoral and technology context*** of the COMETT programme. To that end, ten major sectoral surveys were undertaken amongst the projects in the most important COMETT areas. Several of these surveys were followed-up by workshops to discuss the results.

Related to the Positive actions were the measures taken in 1991 to assist the integration of the ***new German Länder*** into the European Community. One million ECU was allocated for the preparation of university-enterprise training partnerships (by the 1992 Call), additional grants for transnational student placements to and from these regions, as well as for various initiatives to introduce people and organisations from the new federal states to the COMETT environment.

1.4 Programme evaluation

A considerable amount of programme monitoring and evaluation took place over the lifetime of the programme. This section focuses on the formal, external evaluations which have taken place; Annex 4 provides more details on the different programme monitoring activities.

The first external evaluation of the programme COMETT concerned the first years of COMETT I (1986-1988), and was undertaken by Coopers & Lybrand and the Science Policy Research Unit of the University of Sussex. The second external evaluation covered both the last two years of COMETT I (1988-1989) and the early stages of COMETT II (1990-1991). It was carried out by ECOTEC and finalised in August 1991. The report concluded, overall, that the various objectives of COMETT had been successfully achieved. It noted in particular that "*the training needs analysis work [supported by COMETT] has often been pioneering and has helped improve communication between employers and university trainers*". Commenting on the transnational student exchange programmes, it was noted that the benefits of this activity "*... extend beyond COMETT. In particular there are considerable long term benefits to the trainees involved. The activity has strongly contributed to university-enterprise cooperation and the development of transnational networks.*"

The third evaluation exercise, launched in 1992 and finalised in mid-1993, consisted of a three-facetted approach:

- An evaluation exercise, similar in nature to the first and second COMETT evaluations, carried out by GMV Conseil, in association with other consultants. Their report will be referred to as the 'GMV evaluation report'.
- National evaluations carried out by the authorities in the Member States and the EFTA countries.
- A strategic evaluation carried out by a panel of seven independent experts, chosen by the Commission for their knowledge about the dialogue between university and industry technology training in Europe. The final report of this expert group will be referred to as the 'evaluation report of the panel of experts'.

The GMV evaluation report, the evaluation report of the panel of experts and a summary of the national evaluations were published in one volume in 1993.

The panel of experts' report was in general very positive. It recommended notably the COMETT Programme to be: "*... the predominant mechanism for Community actions involving transnational cooperation between universities and industries related to training (initial and continuing) for and because of technological change.*" Nevertheless, they also identified areas for improvement, such as the access of SMEs to the programme, closer links with other Community programmes and initiatives, and the need for a more active participation of industry in projects. The GMV evaluation report learned that COMETT was: "*... globally perceived as a politically important programme, offering real added value, and possessing a catalytic and multiplicatory effect.*" As regards the programme's impact, the report concluded that: "*... COMETT greatly contributed to the remodelling, enlargement and internationalisation of the cooperation network of project contractors.*" The report also recognised that the industrial perception of the programme and the level of involvement in projects was quite variable. A common issue emerging in these reports concerns the burden of administrative procedures and paperwork, with strong demands being made to decrease and simplify this work, or to provide assistance and support to facilitate this task.

These evaluation reports were timely and proved to be of considerable help to the Commission when preparing the proposals for the new LEONARDO DA VINCI programme.

Finally, in 1994 all Member States and EFTA countries were asked to make a second and definitive evaluation of the COMETT programme in their country. Although there are, of course, differences between countries as to the implementation, progress and perception of COMETT, some common elements in the opinions of Member States could be identified. A summary report of this exercise, published in 1995, confirmed to a large extent the results of the previous national evaluations. It concluded notably that: "*... The major contribution of COMETT to the higher education/industry debate has been to draw attention to the benefits to be derived from transnational cooperation in the area.*" Also it emerged that: "*... COMETT's major operational success has been in the European added value which it has brought through the formalisation and acceleration of transnational student placement activities and, to a lesser extent, of higher education institutions technical training development.*"

2. Networking

This chapter focuses mainly on the contributions and achievements of the UETPs, the consortia supported under Strand A. However, since networking is a feature common to all types of COMETT projects, the topic is discussed in a somewhat wider context.

2.1 Introduction

2.1.1 The concept of networking

Networks are as old as human society. It suffices to witness the formation of not only political parties, cliques and insider groups but also the importance of a variety of "societies" and "invisible colleges" in the development of modern science. It is no surprise that such an effective and even necessary structure of human communication should be formalised, funded and put to work for European economic development by many European Programmes, including COMETT.

By and large, networks are associated with the provision of some form of "service". They are a way of connecting the users and providers of this service. Usually the network design represents a compromise between its ability to provide every possible connection pattern simultaneously if required by the users and the cost of network provision and maintenance. A difference is often made in networking between local (intra-regional) area networks and wide area (inter-regional/international) networks. It is possible that the forms of optimal networking solution differ between the two situations. Equally, one might be sensitive to how often information needs to be disseminated, the type of access network members desire, and the rate at which it can be distributed.

2.1.2 Networking in COMETT

The GMV evaluation report noted[2];

One of the most cited impressions of the programme was the setting up of a network at European level. For those benefiting from it, this network provides an undeniable value added element in terms of European integration, concentration of abilities, ease in tracking down partners as well as complementary elements, synergy, economies of scale, European critical mass sufficient to create a project, etc. ... COMETT has helped to a large extent in reshaping and enlarging the project initiators' cooperation networks. Today, putting aside the inter-UETP partnerships, it can be seen that half the partnerships engaged in the COMETT programme are transnational, and that half have been set up thanks to COMETT.

Thus while the UETPs are the structural framework of COMETT networks, and the focus of this section, the other strands of the Programme have often gone on to develop their own specialist networks.

[2] There is some regularisation of a French to English translation.

What does the "COMETT network" refer to?

The term "network" as used in COMETT has a double meaning:

- It may refer to a project partnership or consortium itself, in general one which has been supported under Strands A, Cb or Cc. The term network is appropriate here since such partnerships involve between 15 and 200 participating organisations. The largest UETPs actually have some sub-networks operating within their consortium structure.
- It may also refer to the cooperation between COMETT projects themselves, really a network of networks. Thus, the 'UETP network' points to the mechanisms of collaboration and exchange between UETPs; again, many overlapping sub-networks have emerged. There were also many networks of Strand C projects operating in similar areas.

"The COMETT network" thus represents an estimated 900 sub-networks, not counting the several 1000s of bilateral or trilateral mini-networks for student and personnel exchanges.

2.2 Functions and structure of UETPs

2.2.1 The Council Decision and its operation

The network of University-Enterprise Training Partnerships (UETPs) was launched under COMETT I and developed and elaborated during COMETT II. It was explicitly set up to act as the structural backbone for achieving the five overall objectives of the Programme (cf. Section 1.2 above). In particular, the Council Decision requires the following of this "European Network":

The development and reinforcement of university - industry training partnerships (UITPs)[3] *and the extension of the European network, both regional and sectoral, in order to further transnational cooperation particularly in the following fields:*

- *in contributing to the identification of training needs in technology and to resolving them in liaison with relevant bodies in this field*
- *in assisting and facilitating the development and exploitation of projects within the other strands of the COMETT II Programme*
- *in strengthening cooperation and inter-regional transfer between Member States in the development of initial and continuing training for the needs of technologies, their applications and transfer*
- *in developing links in the form of transnational sectoral networks bringing together projects from various strands of the programme in the same area of training.*

From this base, the COMETT II Vademecum and Application Package were developed by the Commission as the operational foundation for UETPs and the effective Calls for Applications to receive financial support for such projects. The Vademecum saw UETPs defined: '*as cooperative initiatives between universities and enterprises which:*

[3] For consistency with COMETT I, the acronym UETP (rather than UITP), and "enterprise" instead of "industry" has been used in Strand A.

- *involve agreement between universities and enterprises designed to contribute to the **identification of training needs** in technology and to undertake actions in order to meet those specific training needs for highly qualified human resources*
- *aim to **meet those needs on a structured and coordinated basis** in coordination with relevant bodies and agencies*
- *provide **a support structure** for the execution of some or all of the following activities (whether within the COMETT framework or supported under other schemes): (a) work placements for students and academic staff in enterprises, (b) secondment of staff of enterprises to universities with a training objective, (c) joint collaboration in the development and implementation of retraining and updating programmes for the staff of enterprises and for training personnel (particularly mid-career personnel), including, in particular, the staff of SMEs*
- *strengthen **cooperation and inter-regional transfer between Member States** in the development of initial and continuing training for the needs of technologies, their applications and transfer*
- *develop links in the form of **transnational sectoral networks** bringing together projects from various strands of the programme in the same area of training.*

Thus, the European Network consists of two types of UETP:

- ***regional UETPs***: partnerships at a regional level bringing together within a particular geographical area groups of universities and groups of enterprises engaged in a joint training venture undertaken with the support of the relevant private and public authorities and of such a nature as to have a significant impact on training efforts within the area
- ***sectoral UETPs***: partnerships of a transnational character within a given technological field or an industrial sector which bring together universities, enterprises and other relevant organisations specialising in that field with the objective of improving training in that sector.

Both these types of UETP should include an active commitment to liaise with counterpart initiatives in other Member States. Thus, the UETP structure has two distinct features:

- An internal partnership between region-based actors: local higher education institutions, enterprises, training institutions, chambers of commerce, trade unions, etc. In the case of a sectoral UETP the actors might be similar but based in different regions and with a common industrial or technological interest.
- A European-wide network for cooperation in higher education - industry relationships, particularly in the area of advanced technical training. This network then provides the opportunity for the partners in sectoral or regional UETPs to extend their training and mobility activities across Europe through cooperation with other UETPs in the COMETT network.

No particular legal status was required of the UETPs. It varied according to local, regional and national circumstances. By and large, higher education institutions played the greatest part in the organisation and administration of the UETPs due to their existing or rapidly developing direct interest in mobility activities and in the development of continuing education based on their R&D and extension of existing courses.

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2.2.2 The development of the network

COMETT II inherited a strong network from COMETT I. Half of the 158 UETPs accepted for funding following the 1990 Call for Proposals had already been funded under the first programme. However, the 1990 results pointed to the difficulties which some regions had in participating in COMETT activities: several peripheral regions, as well as the EFTA States which were participating for the first time - along with the new German Länder which had become part of the Community. In this context, the Positive Action programme was used during 1991 to develop the groundwork for the 1992 Call. This initiative was specifically targeted at those regions, countries and sectors with acknowledged weaknesses in the COMETT UETP structure. The positive results of this well planned approach are recognised in the Final National Reports and Evaluations where, for example, the full participation of Germany, including the new Länder, is to be seen along with a strong integration of UETPs into the Norwegian and Swiss infrastructure, as well as improved sectoral coverage. By 1992, the large majority of Europe's regions were covered by a regional UETP, the main exceptions being in certain parts of Italy and Spain.

The sectoral UETPs structured themselves, by and large, along generic technology lines, rather than traditional industrial sectors. The major fields were:

- Software and Information Technology applications (9 UETPs)
- Advanced Production and Manufacturing Technology (7 UETPs)
- Environment and related fields (7 UETPs)
- Agro-food and Biotechnology (7 UETPs)
- Materials Technologies (6 UETPs)
- Mechanical Engineering, Design and Applied Mathematics (6 UETPs)
- specific manufacturing sectors (6 UETPs)
- Telecommunications and related fields (5 UETPs).

It should be remembered that many regional UETPs have sectoral specialities themselves.

The outcome of the 1992 Call saw some 207 UETPs established: 130 regional and 77 sectoral. The greatest number of regional UETPs were in France (21), followed by Germany (19), the UK (17) and Italy (13). The sectoral UETPs are by definition highly European in nature and often cannot be allocated to a particular lead country.

2.2.3 Financial aspects

Overall, the support for the work programme of the UETPs within COMETT represented some 12 % of the total programme budget. Remember, however, that UETPs also benefitted from funding in the other Strands, particularly through the administration of the "pool" scheme, which is discussed later in the report. As regards the funding principles, the COMETT Vademecum stated :

The aim of the Community funding granted to UETPs is above all to support:

- *activities with a European dimension*
- *activities which are designed to lead to cooperation, exchanges and communication, both within the UETPs themselves and via the UETPs operation within the European network.*

The Community may make a flat rate contribution to the activities mentioned above up to a maximum of 50 % of the UETP's programme of expenditure. The support will be reduced progressively with a funding ceiling per UETP of 70,000 ECU, 60,000 ECU and 50,000 ECU respectively for the first three years of operation.

Provision was made, however, for a certain flexibility in such funding, particularly for UETPs set up under COMETT I. In fact, with a total of 207 by 1992, more UETPs were funded than originally planned for and funding levels correspondingly reduced.

The average UETP budget was 180,000 ecu in 1992, of which 25 % was covered by COMETT. Contributions in kind accounted for 38 % of their budget: half from the contractor or coordinator and half from partners. Cash contributions accounted for another 13 %: again almost equally shared between the coordinator/contractor and the other partners. The other significant sources of income were regional aid (7 % - especially regional UETPs) and national aid (4 %). French UETPs were outstandingly successful in obtaining funds from these sources. Other sources included income from managing other COMETT projects, seminars, etc. Thus, at an overall level, one-third of finance comes from EU support and one-third from in-kind contributions. This is a strong pointer towards the difficulties of viable self-finance which UETPs may have if they have to operate under similar conditions in the future.

2.2.4 Legal status and strength of partnerships

The legal status of the 147 UETPs which had seen three years of operation included:

- 64 as simple agreements among partners
- 33 as new independent foundations or associations.
- 21 as independent businesses, usually on a not-for-profit basis
- 20 as parts of existing organisations or associations, for example, in professional or industrial federations or in Chambers of Commerce, and
- 9 other forms of legal status.

Given the initial requirement for the UETPs to become self-financing over a period of three years and the size of the typical UETP annual turnover (300-400,000 ECU), it is of concern that 44 % of partnerships had not tackled the issue of a proper legal status - despite having been in existence for at least 3 years, some even 5 or 6 years (since COMETT I). Although such a status could not be imposed, the Commission has made explicit remarks in its documents on the risks being taken by the contracting party in such a situation, giving the possibility of partners withdrawing at the end of the Programme. Of course, when new legal structures have been set up, there is greater ability to enter into other contracts and relationships, but it also means the entity must market and make itself known.

The personnel situation within UETPs reflects both their rather loose legal structures as well as the difference in activities between regional and sectoral UETPs. There were only 75 senior full time employees among the 147 UETPs which reported information in sufficient details on their personnel deployment. These are concentrated in regional UETPs. The high numbers of senior part-time workers in sectoral UETP corresponds to an organisation which often has one senior coordinator "per country pole" with other part-time support. Additionally, sectoral UETPs generally requires high level, senior technical input compared to more generalist knowledge in regional UETPs.

As with the legal structures, employment patterns of UETPs give some concern for their long term viability. While reliance on part-time workers can be uncertain, the dependence of the development of the UETP on the efforts of, quite often, only one person can be equally fragile. Some of the Final National Evaluations point to the resignation of good people from the UETPs due to their uncertain future, compounding the weakness of the UETPs position.

Decision making in UETPs reflects the variety of legal and operation structures which have developed. Of the over three year old UETPs, 58 % have an independent management committee or board, 27 % have such a committee but which is responsible to another organisation, usually the contracting organisation, and 7 % still had no decision making body. Of regional UETP management boards, 32 % are answerable to another organisation compared to 17 % of sectoral UETPs. This is possibly an indicator of the integration of UETPs into regional infrastructure. Only 44 % of UETPs had set up a steering committee for more day to day management. Within UETPs, 57 % had set up working groups for particular topics. Some 30 % of UETPs had undertaken subcontracting or substantial delegation of work to partners or outsiders. Sectoral UETPs, per force, tend to operate more decentralised management structures. Their management structures are less developed. Conversely, regional UETPs, without the problem of travel costs, hold more meetings and have a more developed management structure.

Among the UETPs of three years old and over, there is an average of approximately 50 partners per UETP (with other UETPs making up 10 % of these partners). Sectoral UETPs average 17 universities as partners, compared to 10 in regional UETPs. This can be explained by sectoral UETPs being a structure based on a technology area as opposed to an industrial sector, with universities as the founding members. Interesting to note is that 73 % of all UETPs' industrial partners are SMEs, i.e. companies with under 500 employees.

Overall, the nature and role of UETPs' members, partners or associates is often not very clear. Because of the variety of UETP structures, the notion of what a "member" of a UETP is, has never been defined. Some define it as equity participation, others as participation in management and still others as simply expression of interest. Thus, the level of active participation in COMETT by enterprises and others may be considerably lower than some of the raw data suggests. Throughout the programme, a number of measures were taken (such as the issuing of formal recommendations to projects and a number of initiatives under the Positive Actions scheme) to improve industrial participation and to strengthen and deepen partnership structures.

2.2.5 European dimension

The European dimension is considerable, particularly in sectoral UETPs which average participants from 10 countries. Their activities are immediately and directly trans-European. Their management form varies from a democratic decentralised model to a centralised, pyramidal form. Regional UETPs are less immediately European, achieving this dimension over a longer time period, through placement, training and other collaborative ventures. After 3 years, they claim partnership with an average of 4 UETPs abroad.

From the last available full survey of UETPs, their pattern of linkages to other COMETT activities showed that 54 % had strong links to other UETPs, underlining the importance of the inter-UETP activities and their strength as a Europeanising force. Other strong links were to student placement activities, short courses and joint training projects.

Links to other European Programmes have grown for UETPs, particularly to other education and training initiatives. Two out of the average three reported programme links per UETP will be to education and training; the other to R&D. There is little difference between sectoral and regional UETPs. The main links are reported to be to TEMPUS, ERASMUS, FORCE, SPRINT, LINGUA, EUROFORM, ESPRIT and BRITE/EURAM in that order. Again this reinforces the role of the UETP as a Europeanising force, moving to supporting much wider activities than the original COMETT brief.

2.2.6 Information management

Over 50 % of UETPs publish a regular newsletter and a similar proportion use electronic mail on a regular basis. On the other hand, there were some 10 % of UETPs which have not published a promotional brochure. Information activities appear to centre on traditional methods: mailings, visits and information days. This said, three-quarters of UETPs provide information on a full spectrum of topics from COMETT, to other COMETT projects, to EU Research Programmes. Other information activities include developing an inventory of education and training opportunities, and other training related databases. Again, the Europeanization aspect of UETPs is reinforced.

Half the UETPs have formed linkages with Euro Info Centres, with national and with regional networks. There has been some concern, however, about the proliferation of networks targeting the same customer with similar services. In the atmosphere of rationalisation, some rethink of the role of UETPs, particular as information source, may be necessary.

2.3 The contribution of the UETPs

The UETPs have often been called the "***backbone***" of the COMETT Programme. The Panel of Experts' Evaluation noted: *"The UETPs are seen by the Panel as an essential part of a European Network for developing industry-university links and are vital to the running of COMETT itself."* In this section, the specific contributions of the UETPs are examined under four headings: regional UETPs, sectoral UETPs, training needs analysis activities, and transnational activities.

2.3.1 The regional UETP networks

The regional UETPs' two main contributions have been:

- to develop the local or regional interfaces and infrastructure associated with university-industry cooperation, and

- to integrate this regional infrastructure into the first European-wide cooperative network dedicated to furthering the European development of university-industry cooperation in continuing education and training.

At a local and regional level, the UETPs have developed the organisation, information and management interfaces between higher education, domestic enterprises at a local level, public authorities, and other institutions involved in regional and national development (particularly, but not exclusively in education and training). This has taken place through information events, workshops, training courses, projects, etc. In particular, they have acted as information and management structures for EU Programmes (cf. above). In some countries, a number of UETPs have been strongly integrated into a wider role in regional and even national technological and industrial development strategies. Their success in this wider development role may be related to their initial institutional positioning.

However, the UETPs most acclaimed contribution has been to integrate the above activities with similar and paraliel activities in the regions of other European countries, forming international cooperative partnerships. UETPs have provided not only a framework for international training and placement activities but also, as one country commented in its national evaluation report '*an international vision on technology training*', often internationalising purely regional projects.

The primacy of the UETP's contribution as the development of the trans-European interface seems to hold for both regions in which there was already a strongly developed higher education-industry interface, as well as the less experienced regions. The latter regions, of course, have benefited to a relatively greater extent from the UETP's effect on domestic infrastructure. However, within a participating country, the effectiveness of UETPs could vary greatly from one region to another. Italy, for example, emphasises their effectiveness and importance in the South.

The generally positive attitude to UETPs must, however, be tempered by noting that in some regions, the contribution outside the universities and companies directly involved may be small. Equally, enterprises would not see as great a value added in the work of UETPs as might regional or European authorities. Attitudes of universities varied greatly, reflecting the fact that the added value of the UETP network is to a large extent dependent on the size of the institutions, the past experience with student placements and continuing education, and the existing linkages with industrial and transnational partners.

2.3.2 Contribution of sectoral UETP networks

Sectoral UETPs seem to have had fewer identity problems than regional UETPs and have contributed more directly and in greater measure to technology transfer and industrial training development. Their clientele were seen as much better defined and, by and large, a more homogeneous group with similar technical requirements. This and the more focused expertise of the UETP personnel have made work such as training needs analysis, reports on the state-of-the-art technology, and the formation of "European Working Groups" both more relevant to UETP activities and easier to undertake.

For similar reasons, the development of the industrial base of the UETP network has also been easier to construct. Some have managed to develop not only a strong network but to have become, to some extent, a voice for the sector in European level education and training issues. A number have also developed recognised European wide training programmes and had a more visible impact on training. It was noted that such specialised, high level courses fit in better with the advanced education system. Like the regional UETPs, the sectoral partnerships have also become effective organisers of mobility programmes and coordinators of other non-training EU Programmes.

However, as with regional UETPs, the overall magnitude of their contribution should not be over exaggerated: COMETT is a small programme. Comparison of the overall effectiveness of regional and sectoral UETPs is not practical; they address different development issues. The Panel of Experts' Evaluation notes, '*Sectoral UETPs are generally better placed in the more technologically advanced regions and regional UETPs are necessary where there is not an adequate level of technological skills.*' Equally, the National Final Evaluations do not make any overall judgement as to whether sectoral or regional UETPs are better or more valuable for COMETT objectives, but their analysis would be generally supportive of the Panel of Experts' position.

2.3.3 Articulation of industrial training needs

Direct training needs analysis is a very difficult area for regional UETPs and even more so for sectoral UETPs. Indications are that firms and even UETPs and regional authorities do not see it as the UETP's main role: it is a company function and UETP personnel do not often have the expertise. Firms were much more positive about the UETPs' role as a conveyor of information, linking firms to higher education institutions and advising on European programmes and projects. In this context, some point to UETPs having acted as a sort of "clearing house", drawing existing studies together, defining methodological approaches, choosing training options, etc. as well as consolidating and articulating the demand from SMEs. Equally, innovative approaches were seen in some UETPs with the use of instruments such as round tables, sectoral workshops, and future issues groups as an effective method of making known industrial demand requirements. This said, most UETPs have carried out training needs analyses (TNA) as their main approach to assisting in the articulation of industrial needs and many have been very successful.

The UETPS and the Skill Needs project

A major impact of the UETPs in tackling the articulation of industrial needs has, in fact, taken place outside the formal framework of COMETT II itself. In 1990 the European Parliament, concerned at the possibility that skill shortages might retard Europe's economic development asked the Commission to examine the skill position across the regions of the Community. Using largely COMETT's network of UETPs to undertake the analysis, within six months the first regional results were available and within a further two years a comprehensive picture of skill needs across Europe had been achieved and was already being updated. Out of this work sprang many regional initiatives to correct local difficulties, as well as improved regional networks and observatories for monitoring skill needs on an ongoing basis.

In various UETPs, the carrying out of the TNA has provided the process through which university and industry have been brought together not only to discuss training but also to form the basis for a more general future cooperation in the field of human resource development and beyond.

2.3.4 Stimulation of the transnational outlook in partners

All evaluation and monitoring reports have recognised the effects of UETPs in stimulating a transnational outlook among the partners. This has occurred for both universities and enterprises. For higher education institutions, an international exchange on training methodologies and teaching systems as well as contacts with firms abroad hosting their students have taken place. For participating firms, a wider access to the European training potential and a greater awareness of the European dimension of R&D and technology have resulted.

It has also been observed that there is a specific benefit of the integration of SMEs into European programmes for the first time via student placements and the location of partners abroad. Through such actions, firms have become much more aware of the potential benefits of collaboration in Europe, not only in terms of training, but also in relation to R&D programmes and business generally. Quantitative evaluations bear out the positive attitude of students and enterprises.

In addition, UETPs have helped purely national projects to become European. This has led to the development of strong international networks of universities, institutes and enterprises around short courses and training projects. UETPs have achieved this change in outlook through different modes of transnationality; some emphasising specific technological sectors, others involving a very broad spread of organisations from their region, while still others have concentrated on developing their education institutions as catalysts. In all, COMETT has thus contributed considerably to developing a collective transnational approach to education and training.

2.4 Strengths and weaknesses of UETPs

2.4.1 The strengths

The European dimension of both regional and sectoral UETPs has undoubtedly been their greatest strength. This European dimension ranges from UETPs' direct contact with the Commission and knowledge of European Programmes, to expertise in applying for and managing European projects, to their core strength as part of a well structured, dedicated European operational network. The UETP may also benefit from links to other European networks and information sources.

Again for both sectoral and regional UETPs, their second axis of strength lies in their network of domestic, regional or sectoral members. Regional UETPs often have sectoral specialities and sectoral UETPs and their nodes are often involved in regional infrastructure. Generally, UETPs now have an accepted role (some much stronger, some much weaker) in their domestic university-industry interface and indeed in the wider skills supply-demand interface.

The initial positioning of the UETP is quite important in this context. Strong positioning includes links to or physical location in university extension centres or liaison offices, continuing education and training providers, contract research institutes, chambers of commerce, etc. The access to supplementary funding can often be a function of such strong positioning and/or the network created.

Another dimension also relates to the institutional positioning of the UETP (or sectoral UETP node). Positioning with or in institutions where the objective was to transfer R&D to industry has assisted in creating a direct working contact with local industry. This has improved the perception of university graduates, created industrial interest in university research and researchers and opened effective channels for firms to higher education institutions. Positioning UETPs with institutions whose objectives were predominantly academically oriented seem less successful. Here UETPs have had more focus on student placement but also more difficulties due to the lack of a stable structure of industrial involvement.

At a lower level, UETP strength resides in factors such as the dedication of its managers, its well motivated personnel, its reputation, its '*independent status as a base for democratic partnership*', its technical credibility, its links to R&D programmes, etc. The recent introduction of recruitment activities has improved the position of some UETPs. The full geographic coverage of a State by UETPs was also seen as important.

2.4.2 Weaknesses of UETPs

The fragility of the financial base and the lack of industrial involvement are the two main difficulties confronting the UETP network. The weakness and insecurity of the financial base of most UETPs is seen as the main weakness. It entails a sub-critical size for the UETP and limited numbers of staff as well as difficulties in realistic, long term planning. The strong dependence of some UETPs on European funding for complementing their own resources, and their inability to generate other funds compounded this insecurity.

Limited involvement of industrial partners, particularly SMEs, and the difficulty in retaining industry's interest in projects have emerged as an other core difficulty. These issues can be compounded in the less favoured regions by the weak industrial base and the non-innovative, traditional nature of many companies. The UETP staff itself may also have little actual technical or industrial knowledge.

In some regions, the higher education base may also cause problems. This could arise when the universities themselves have a weak technical and organisational base. Some higher education institutions appeared to be mainly interested in student placement, with little participation in training development. Equally, the traditional outlook of some universities may cause difficulties in instituting and recognising industrial placements.

Other weaknesses include the poor development of networks and poor coordination with other national and local training bodies, the rapid turnover of UETP staff, overlarge regions to be covered, a disinterested attitude by public authorities, etc. Poor planning, a lack of marketing strategy, and the lack of time for self-training in a complex area were also stated as weaknesses seen in some UETPs. The time required to become known and accepted is also a difficulty.

An additional weakness in EFTA countries is that their UETPs currently cannot access as easily the synergy between COMETT and other EU Programmes in comparison with EU Member States. This difficulty will pass over the coming years.

2.4.3 The self-image of UETPs

The UETPs' self-image reflects these weaknesses. It shows them as competent in European level university-industry relations, particularly the European dimension, and as making a significant contribution to advanced technical training. They see their structure as efficient and able to develop transnational projects or networks with good co-operation within the UETP network. Secure within the higher education world, their confidence weakens when they have to deal with representative organisations and even more so with industry, particularly SMEs. They are not fully sure of their contribution to regional economic development. Direct training, training needs analysis and direct dissemination and marketing of training cause them further concern.

While such qualitative opinions by UETPs and national authorities are important indicators of the health and strategic development direction of UETPs, there is some concern that a system of operational objectives and quantitative indicators has not been developed sufficiently either for or by individual UETPs and was seen as a problem in upgrading their work.

3. Training actions

3.1 Introduction

3.1.1 Training activities in COMETT

Training, when defined in a wide sense as acquiring or updating knowledge and skills, can be performed:

- through formal training activities, i.e. classroom teaching, or through distance education provision
- by self-study or learning-on-the job
- by bringing people in touch with each other, which can be used as an informal way to let them learn from each other
- through transfer of people to another job or location.

The COMETT Programme aimed at promoting training in, in particular, advanced technologies in a European context. As Section 1.2 already highlighted, the Council Decision on COMETT II includes explicit references to a number of training objectives, to be realized by COMETT II. The relationship between these objectives and the formal training activities supported by COMETT will be considered below[3].

The programme provided a number of operational mechanisms in this regard. Let it first be recalled that the many partnerships and networks - UETPs and others - created and supported by the programme have provided to many people an informal platform for contacts and thus for exchange of knowledge and experience. At the same time COMETT has offered a range of possibilities for the organisation of placements and the exchange of people (cf. Section 4 further on in this report). However, in terms of training activities, the most visible and eventually most substantial part of the COMETT budget was allocated to the more formal training development efforts. These activities will be discussed in the following paragraphs.

In COMETT II, support for training projects was granted under *Strand C, Joint Training Actions*. This programme category was split into 3 categories or *sub-Strands:*

- Short training courses (Ca)
- Joint training projects (Cb)
- Pilot projects (Cc).

This sub-division was the operational implementation of the requirements laid down in the Council Decision on COMETT II (see box below).

[3]Several issues, such as industry-university cooperation, synergy with other European programmes and equal opportunities between men and women, will, however, be discussed as part of the transversal themes in Section 5.

Support for advanced training activities as specified in the Council Decision on COMETT II

"(a) Support for crash training courses with a European dimension in, in particular, advanced technology designed for the rapid dissemination - by and in universities and by and in industry - of the results of research and development in the field of new technologies and their applications, as well as for the promotion, particularly for small and medium-sized businesses of the transfer of technological innovation to sectors in which it was not previously applied.

(b) Support for work on devising, developing and testing at European level joint training projects in, in particular, advanced technology, initiated jointly by different industries in association with the universities concerned in at least two different Member States of the Communities in fields relating to the new technologies and their applications.

(c) Support for multilateral arrangements for training in, in particular, advanced technology initiated jointly by different industries in association with the universities concerned aimed at establishing systems for distance learning utilizing new training technologies and/or resulting in transferable training products."

3.1.2 Some key data on training projects supported in COMETT

For the short courses supported under Strand Ca there have been Calls for Applications in each of the five operational years of COMETT II; from 1991 onwards these calls were subject to the 'pool' scheme (cf Section 1.3). For the joint training projects of Strand Cb, projects could be submitted in 1990 and 1992. There has not been a Call as such for the pilot projects (Strand Cc). Instead, out of the Strand Cb applications in 1990 a number of projects (or combinations of projects) were shortlisted and invited to submit a more detailed application. This resulted in the selection of 30 pilot projects.

Between 1990 and 1994 no less than 2036 applications were received under Strand C: 1017 for the organisation of pools of short courses and 1019 for joint training activities. Eventually more than 50 % of the applications were accepted; this relatively high figure is to a large extent attributable to the pool system (cf. Section 1.3), where most of the projects were accepted, but in general only for part of the proposal.

In the five years of COMETT II the totality of applicants in Strand C asked some 500 million ECU for their training actions. Some 101 million ECU would eventually be awarded. Three quarters of the projects accepted were short course projects; however, from a financial point of view they account for only a quarter of the support granted in Strand C. Most of the training budget went to the joint training projects in Strand Cb, with an average grant of 200 000 ECU, and to the pilot projects, each receiving 500 000 ECU. On the average the joint training projects have been supported at a level of 30 to 50 % of total project costs; for pilot projects the figure came close to 50 %. In Strand Ca, support was more of a flat rate nature, based on the number and type of course sessions to be organised - but in any case lower than 50 % of the project costs.

Many organisations have participated as a partner in Strand C training projects. All together there are an estimated 8500 different organisations which are or have been in-

volved in the development of advanced continuing training projects within COMETT, probably making it the biggest Continuing Education and Training network worldwide.

The distribution of the main types of organisations in Strand C projects is approximately as follows:

- over 5500 different companies, including some 4000 SMEs (small and medium-sized companies)
- 1200 universities and other higher education institutions (which are, on average, involved in 2 projects)
- over 1500 other organisations (such as professional organisations, research institutions, public authorities, not-profit making associations, etc ...)
- 200 UETPs (most UETPs submitted pool applications under Strand Ca, and over 1 UETP in 2 is participating in, on average, 3-4 Cb/Cc projects).

In Strands Cb and Cc, the average number of project partners is 19, including, on average, 7 enterprise, 5-6 universities, 1-2 UETPs and 4-5 other organisations. There are also typically 6 different countries to which partner organisations belong.

The outputs of these training projects are many and varied. In summary, by the end of the operational period of COMETT II (end of 1995) it is estimated that:

- there will have been 9500 course sessions,
- given for some 260 000 trainees,
- with a total of 280 000 training hours (being the sum of the duration of the training courses).

Also:

- approximately 4600 training materials will have been produced, and
- an estimated 250 000 people will have used one or more of these training materials.

About the nature of the training materials produced it may be mentioned that some 60 % of them are mainly text or paper based, 30 % are software based and 8 % are videos.

3.2 Training in advanced technology

3.2.1 What is advanced technology training ?

The Council Decision on COMETT II makes several references to the requirement for COMETT to support training in advanced technologies, notably within the objectives:

"(...) to improve the contribution of, in particular, advanced technology training at the various levels concerned, and thus the contribution of training to the economic and social development of the Community (...)"

However, no definition was provided of what was to be understood by ***advanced technology***, either in the Council Decision, nor in the COMETT II Vademecum. Nevertheless it is obvious that the criterion of applicability of the technologies considered is an important one.

The more advanced an area is, the more difficult it becomes to develop training actions which are based on a thorough analysis of training needs. At best there will be a representative group of research and development people who feel that the type of subjects treated might well be interesting. This situation is part of the rationale for the COMETT framework: by promoting cooperation between universities and enterprises, combined with a strong emphasis on links with other European programmes, an attempt is made to create the best conditions for an optimal choice of advanced training topics which could contribute to the economic development of the Community.

What eventually was considered as 'advanced', innovative and important areas in COMETT can be deduced from ranking the technologies areas most frequently appearing in COMETT projects. In COMETT I (1986-1989) three sectors stood out as being the most important: ***Innovation Management***, ***Advanced Production*** and ***Microelectronics***. In COMETT II (1990-1994) there were many more areas which were in high demand, but not at the same moment:

- the only sector that remained very strong in demand throughout COMETT II was ***Advanced Manufacturing***
- in 1990 there was strong demand for project support in the areas: ***Materials***, ***Health and Safety***, and ***Innovation Management***
- in 1992 there was a decrease for ***Materials, Health and Safety***, and ***Innovation Management***, but ***Environment*** and ***Training (technology and methodology)*** boosted; new top areas were often ***Information Technology*** based: ***Data and Information Processing, Software Engineering***, and, to a lesser extent, ***Telecommunications and General Information Technology*** topics
- by 1994 it had become very difficult to identify any dominant sectoral pattern, given the considerable freedom given to UETPs in the final selection of sub-projects and courses to be held as part of their Strand Ca-pool project.

The survey undertaken for the establishment of the GMV evaluation report clearly showed that both project coordinators and trainees underscored the direct applicability of the technology training provided in the COMETT training courses. Over 90 % of the project coordinators supported this statement, as well as the fact that the training delivered had been effective in assisting technology transfer. And 90 % of the trainees surveyed agreed that the COMETT training courses they had attended were predominantly considered as a tool and support mechanism for increasing or updating their technical knowledge.

The evaluation report of the panel of experts uttered some criticism on the restriction to technology training. They recommended: "***Training not only in technical skills but also the development of managerial, social and enterprise skills.... These skills are a crucial element in the proper harnessing of technology, to maximise efficiency and competitiveness in the modern company.***" It should be noted that this is one of the few criticisms given by the panel on the scope of the programme. In line with this recommendation, the Commission has widened the scope of the support possibilities within the framework of the new LEONARDO DA VINCI programme.

The final national evaluation reports indicate that COMETT has been an undoubted success in terms of the improvement of technological training's economic contribution. It should be underlined, however, that this has not been achieved only through the activities supported under Strand C, but also through the experiential learning practices

associated with student placements. The more formal training approaches under Strand C have also seen an improvement in the quality of courses, mostly due to transnationality and industrial involvement, and their wider availability.

The limited size of the COMETT budget, in comparison with national spending in the area of continuing education and training, has also meant that the direct and catalytic effects of COMETT have been, in relative terms, modest. It thus clearly emerges that the COMETT contribution to improving quality of supply has been more marked and more important than its contribution to the quantity of provision. Nevertheless, it is also true that the programme has been a pioneer in many of the lesser developed regions of the Community.

3.2.2 Partnerships and consortia for advanced training

An essential feature of the training activities supported under COMETT is that they are based on collaboration between different partners: they are *joint* training projects. The Council Decision specifies amongst the objectives:

"(...) to foster the joint development of training programmes and the exchange of experiences, and also the optimum uses of training resources at Community level (...)"

For the development and implementation of training activities, there have been two types of partnerships:

- the UETP's accepted under Strand A, which were meant as more structural and long term partnerships, which have been involved in training needs analysis and as contractor for the Ca-pool projects (from 1991 onwards)
- partnerships and consortia established specifically for a particular training project under Strand C; in principle, these were of a temporary nature.

It should be noted, however, that the boundary line is not clear-cut. Some UETPs had a rather narrow focus, while many of the more successful Strand C projects started operating like real UETPs, with goals and action plans extending far beyond the original project specification. This shows that efficient cooperation and the process of learning resulting from it is indeed a stimulus for further joint actions.

Although each partnership includes a variety of organisations including typically several enterprises, universities have often been the driving force behind the initiation and project coordination. The role of enterprises has been much more focused, notably by providing contributions in kind (staff time, equipment and services) for specific aspects of the project, and most importantly, by indicating the technology areas with a need for training, both from a qualitative and quantitative perspective. Once the project is on its way, many universities often have a major input for the development of courses and training materials, with enterprises steering as far as content, delivering teachers and sending trainees are concerned.

The accumulated monitoring and evaluation experience within COMETT suggests that industry has increasingly come to appreciate the extent to which user requirements have been integrated in the training products. Satisfaction was highest when these concerns had been considered in the early development phase of the project. Thus, contributing to the movement from supply driven to responsive training has been one of the strong features of COMETT, one which was facilitated by the programme's strong emphasis on

industry-university cooperation. At the same time, this development reflects the growing importance of Total Quality approaches, with their strong emphasis on customer needs.

Universities have also come to realise the positive impact resulting from cooperation with companies, not only for a particular joint project, but also for their regular education programmes. Working together in a COMETT project apparently has provided great opportunities for informal learning for both university and company staff - an added value of the training project which may not have been fully anticipated. Through international cooperation and by developing university-enterprise relationships partners had the opportunity to understand other cultures, different approaches of training processes, and of project management. When the cooperation and interaction is properly managed, partnerships can become a real platform for learning and creativity.

3.3 The European dimension in training

The terms "***European dimension***" and "***European added value***" frequently appear in many documents relating to COMETT and other European education and training programmes. The Council Decision on COMETT notably specifies amongst its objectives:

"(...) to give a European dimension to cooperation between universities and industry in initial and continuing training relating to technologies and their applications and transfer (...)"

What does this mean in the context of advanced education and training? A possible definition is that a project provides European added value if it addresses issues which could not have been dealt with (or not adequately enough) within a national framework. Such a description comes close to the subsidiarity principle, and is essentially based on economic considerations. A related argument for promoting the European dimension in projects is the fact that many organisations and individuals across Europe are faced with common problems and that all can gain by developing and implementing solutions jointly.

Both arguments apply to advanced education and training projects. The European dimension or European added value could take the form of:

- the organisation of training courses with lecturers and trainers who are not available in that country
- the organisation of training courses for an international audience (for instance, when national markets are too small to reach break-even, or when the interaction between course participants benefits from it)
- the pooling of scarce available resources, knowledge and expertise to design and develop training courses and longer programmes
- the transfer of knowledge and expertise from one region to another, e.g. by specific developments or through the repetition of an existing course in another region
- the set-up training delivery systems which cover more than two countries and could even be pan-European
- the use, translation and/or improvement of existing high quality training materials with the aim of dissemination in other countries.

There are a number of perspectives for assessing this European dimension and value added of COMETT II:

- the European spread of partners within the projects consortia
- the internal use of different European languages
- the nationality spread of lecturers and trainers
- the synergy with other European programmes[4].

As regards the international spread of partners, remember that the average joint training project includes partners from 6 different countries. This figure means that typically one third of the eligible European countries are involved in every joint training project. By any standard, this is really a high number.

The European nature of the consortia is also shown through the internal use of different languages: the data available through project reports has revealed that a mere 20 % of the training consortia kept to one language. A typical COMETT-consortium was capable of effectively using two or three languages, 20 % used even four or more. This reflects the strong language capacities of the partnerships, which is a key condition for achieving quality and success in the European market.

Another measurable characteristic of the European dimension is the international spread of the trainers involved. Though no fully reliable data are available on the number and proportion of lecturers and trainers from a country other than where the course is organised, a safe estimate is that at least 80 % of training projects supported by COMETT involved such 'foreign' trainers. A finding supporting this high international nature of the courses and the very frequent presence of foreign lecturers is that only a third of courses offered was delivered fully in trainees' native language.

These and other results lead to the conclusion that COMETT II did indeed provide a high European added value, and contributed strongly to bringing a European dimension into advanced technology training. Much of the quality improvement in the advanced courses offered on the European market is due to the opening up of course development to a wider pool of expertise across national boarders. Course developers have learnt to compare their own approaches and institutional settings with state of the art methods and knowledge elsewhere. Regional poles of competence in Europe have become better known. This opening has also been important in focusing attention on quality assurance, in particular by the end of COMETT II.

3.4 Some key messages from the COMETT training experience

An overriding message emerging from the analysis is that the COMETT programme has been a most effective mechanism for promoting the European dimension and added value in training projects. The programme has contributed considerably to the development of many new and innovative European partnerships, and, as such, contributed to the further Europeanisation of the advanced continuing education and training market.

[4]This issue will be discussed as part of the transversal themes in Section 5.

The programme has also been instrumental in showing to both industry and academia that cooperation in the field of advanced technology training (and beyond) can be beneficial to both. The programme has contributed to accelerating the transfer of European R&D results through targeted training actions, but lacked sufficient resources to do this on a scale which would have a demonstrable effect. To the extent that the programme was meant to be a catalyst in this process, it can, however, be considered as successful.

Throughout the life of the programme, quality management and assurance issues have grown in importance. In that context, it should be highlighted that COMETT has clearly demonstrated that successful networking and project management in this area requires a great deal of knowledge, skills and personal commitment. The availability of these competencies in the partnership has a strong impact on the success in meeting the particular project objectives. This is a strong argument for paying more attention in the future to the support, information and training of training project coordinators. In anticipation of the new education and training programmes, the Commission has already supported several projects to develop a number of practical guides for use by project promoters. Most of these documents, which draw heavily on the COMETT experience, are now becoming available, so that they might be used within programmes like LEONARDO DA VINCI.

4. Mobility of people

4.1 Mobility within COMETT

4.1.1 Typology of mobility grants

Support for the mobility of people is a common characteristic of many European programmes in the field of education, training and research. Indeed it is increasingly recognised that an individual staying for a certain period of time in another organisation can provide benefits for the individual, the host organisation, and the person's home base. It is indeed through people that the transfer of ideas, knowledge and technology occurs, and mobility schemes are an excellent means by which to achieve this. Since the European Community as a whole will benefit in the medium and long term from such exchanges, it is no surprise to see important sums of European grants being spent on mobility; moreover, transnational exchanges are excellent mechanisms to make people aware of each other's culture and understand the benefits of moving towards closer European integration.

Of course, every programme uses the mobility activities it supports as a vehicle for the achievement of its specific objectives also. In COMETT, these are numerous, but it can readily be seen that exchanges of people can benefit or improve, in particular:

- transnational cooperation
- industry-university collaboration
- technology transfer
- advanced training.

In this context, grants for transnational exchanges (*'Strand B'*) fall into three categories:

- ***Strand Ba***: support for students or young graduates undergoing periods of training in industry in another Member State or EFTA country as part of, or complementary to their training at university
- ***Strand Bb***: grants for advanced training placements; these differ from Strand Ba in that participants must be engaged in the most advanced training level (but not in research activities)
- ***Strand Bc***: fellowships for personnel seconded from universities to industry or vice versa in another country, to bring their skills to the host organisation.

The large majority of projects and grants concern transnational student placements in industry (Strand Ba), and these activities will be the main subject of the discussion below.

Bear in mind that since 1991, all transnational exchanges under COMETT II were managed by the UETPs under the pool scheme (cf. Section 1.3). This guided and effective decentralisation of the programme has no doubt been at the heart of the success of the programme in this Strand.

The COMETT Student placement Guide

With support from the Commission, the COMETT student placement guide '*Transnational student placements: the COMETT experience*' was published in Spring 1993. This Guide draws heavily on the experience of COMETT in operating transnational placements in Europe. It was aimed principally at assisting the UETPs operating transnational student placement programmes. Intended as a practical working tool, the Guide can facilitate the organisation of effective industrial placements.

However, the Guide has been compiled with a wider audience in mind, and anyone organising or wishing to start a European exchange programme should find general guidance on operational aspects as well as useful examples of good practice. The Guide attempts to address some of the barriers hindering successful higher education-industry student exchanges. These barriers include admission restrictions, language problems, work permit issues, housing and practical problems, recognition of qualifications and financial arrangements.

4.1.2 Key data on student placements (Strand Ba)

Industrial student placements within COMETT needed to meet the following criteria:

- be an exchange from a university to a company in another EU or EFTA country
- concern students in the course of their study, or just after the completion of their degree
- last between 3 and 12 months
- have a work programme relating to technology and related fields.

In addition, quality conditions had to be met in relation to the preparation, organisation, monitoring and evaluation of the placement.

Overall, over 36 000 European students will have benefitted from this possibility in the 5 year COMETT period. The annual figure has risen from 3800 placements awarded in 1990 to almost 8000 in 1994[5]; this results in an annual average of over 7000 of such placements. To put this figure into perspective, over the three years of COMETT I together, some 4000 student placements had been supported.

In reality, the demand for placements was much higher than the number of grants awarded. In 1994, for instance, there was a demand for 33 700 transnational placements, but support was only available for about 8000 grants. So, three out of four potential placements could not be supported. This figure is illustrative of the considerable expansion of student placement activity in Europe which has been stimulated by the COMETT programme. An estimated 15 000 companies, predominantly SMEs, have had access to the equivalent of almost 20 000 man-years of human resources.

A typical placement lasted for 5-6 months, with a student receiving an average monthly mobility grant of 430 ECU (the real amount depended on travel costs and cost-of-living in the host country). In total, some 80 million ECU was spent on student placements, representing 35 % of the programme budget.

[5] The actual number of students on placements are some 10 % higher, since the grants were sometimes distributed over a higher number of students (which was possible thanks to complementary funding).

Almost all regional UETPs and a large majority of sectoral UETPs have actively participated in the pool scheme for the organisation of student placements. 80 % of student placements were arranged by regional UETPs, with an average pool grant (by 1994) of 50 students; for sectoral UETPs the average was 30.

About 2/3 of participants were undergraduate students, the rest being young graduates and postgraduate students. Important to note is that 40 % of the total number were female.

4.1.3 Strand Bb and Bc

Strand Bb was an experimental type of exchange which had not existed under COMETT I. The initiative was meant to support long term placements (up to two years) for advanced industrial development projects, involving monitoring from a university and a host enterprise. In the 1990 Call relatively few projects were submitted, and only 13 were selected (of which eventually 10 accepted the contract). Given the low response, it was decided to monitor closely the development of these projects, before a Call would be re-issued again. By 1992, the project results were not totally convincing, in particular the rationale for the existence of a separate scheme. A decision was taken not too pursue this sub-Strand any more, for two main reasons:

- the demand in Strand B was overwhelming and of high quality, in particular in Strand Ba, and maximum effort was to go to those activities
- the analysis of the ongoing Bb-projects had also shown that the nature of these projects was not very different from projects already supported in Strand Ba or Bc; there was therefore no real need for a separate support mechanism.

Strand Bc, however, was much more successful, and an increasing number of grants were awarded each Call. Remember that this Strand supports advanced exchanges for training purposes of university staff into enterprises or vice-versa, always of course, of a transnational nature. As for student placements, from 1991 onwards they were organised through the pool scheme administered by UETPs.

Some 1900 submissions for such exchanges were put forward, and eventually over 800 were accepted. The average duration of the fellowships was 4.5 months, with an average financial contribution per exchange from COMETT in the order of 7000 ECU. In total, COMETT spent some 6 million ECU on this type of activities.

About 2/3 of the people exchanged were university staff, the remainder coming from industry. Interesting to note is that 2/3 of participating companies were SMEs. Over half of the fellows came from peripheral countries; the UK, France and Germany were the host countries most in demand.

4.2 Qualitative observations

4.2.1 Strand Ba

Accumulated experience to date suggests that in the area of student placements, COMETT has to a large extent achieved its objectives, not only in terms of quantity, but above all in terms of quality, in particular as regards:

- the role of student placements as an effective technology transfer mechanism
- the contribution to setting up transnational networks
- the provision of a very clear and tangible European dimension to cooperation between universities and industry
- added value to all those directly concerned, and for European society as a whole.

Thus, the overall opinion on Strand B is positive as regards its contribution, and the effectiveness of mobility actions. This, in itself, is a major result of the COMETT programme, if one compares the current situation with the modest volume of transnational student placement activity at the start of the programme, and the numerous organisational and attitudinal hurdles which had to be overcome. Mobility activities, especially student placements, have had a beneficial effect:

- on enterprises, often involving SMEs for the first time in a European programme; in certain countries a placement culture is developing which was previously non-existent
- on students, who have become better prepared for their professional future, thanks to their improved language abilities, broader cultural understanding, and innovator capacities
- on higher education institutions, where it has catalysed the development of placement requirements and mechanisms, and has assisted in awareness building and updating courses and teaching methods.

More generally, and not fully anticipated, the mobility actions within COMETT have helped in developing new models of technology transfer in knowledge, techniques and models. They are also increasingly regarded as providing a new form of human resource updating and recycling.

In countries where industrial placements are a well established activity, COMETT seems to have had a mainly positive, operational effect rather than playing an innovatory role in the modification of policies and practices. In other countries, where placements were not yet widespread, it has increased awareness of the potential benefits at both the university and the industry; in several it has also led to legal changes in order to facilitate the mobility arrangements.

The unique pool procedure has demonstrated that UETPs are capable of playing an active role in the organisation of placements. The UETP network has gradually developed a unique know-how and set of competencies. Despite legal, financial and other hurdles, the network has developed the capacity to organise effectively and efficiently almost ten thousand European placements and exchanges a year. It has gained the trust and confidence of all actors involved. It has also served as a bridge between mobility actions and training development activities. The UETP network is likely to appear as a valuable resource within the LEONARDO DA VINCI programme and probably other European initiatives as well.

Overall therefore, Strand Ba has been the greatest networking and Europeanising force within the COMETT programme. It has brought more industry and university people into contact with each other than any other COMETT Strand - and probably any other European programme. And it has been a most effective mechanism for involving SMEs, both advanced and traditional ones, in European collaborative education and training ventures.

Enterprises' views on the value of student placements

A survey, conducted at the end of 1994 amongst 199 enterprises which had received together some 500 COMETT student on placement, confirmed the increasing recognition by companies across Europe of the value of transnational student placements of the type promoted by COMETT. The report states in its conclusion:

" *[...] European companies which have participated in COMETT are generally satisfied with Strand Ba, the transnational student placement programme. They are willing to continue recruiting students - at least the same numbers as they have done in the last few years of COMETT. They also accept the fact that students must be remunerated. [...] Strand Ba is a convenient way for enterprises to meet objectives related to the European dimension [...] and the specific objectives of COMETT in particular [...]. These objectives reflect the needs of enterprises, particularly those of small and medium-sized companies (up to 500 employees). Students are generally perceived as "problem" solvers by enterprises. [...]*"

4.2.2 Strand Bb and Bc

As regards personnel exchanges (Strand Bc), the overall COMETT experience is encouraging. Although the scheme has not met the same success and interest as the student placements activity, the quality of the projects supported was in general high and has increased over the duration of the programme - which is certainly attributable to the guidance given by UETPs. European links between universities and companies have been strengthened and extended. A smooth transfer of ideas, concepts and technology has resulted from most of the projects. The scheme has demonstrated its suitability for SMEs, as well as the practical advantages of having the practical aspects administered by an effective and knowledgeable intermediary organisation such as a UETP.

A potential area of conflict is between the personal interests of the fellow for his own professional career, and the interests of the sending and receiving organisations; given the strong personal commitment required, this appears inevitable in such types of project. Also, given the relatively modest numbers involved, little structural change has resulted from these exchanges.

Concerning the limited success of the introduction of the Strand Bb scheme, the main lesson learned is the need to clearly targeting such activities, with a distinct differentiation from other support schemes, both in terms of the type of activity, and concerning the potential beneficiaries targeted.

4.2.3 Main messages for the future

The organisation and administration of transnational student placements and personnel exchanges between companies and higher education institutions is not a straightforward task. It has taken much time and effort to develop an effective - yet still far from perfect - network mechanism which can bring the demand and supply side together and ensure that the three parties concerned (the individual going abroad, the sending organisation and the receiving organisation) will have benefitted from the exchange.

Within LEONARDO, the know-how and competence available in this network should be maintained, further developed and disseminated. This will require the effective and rapid dissemination of information, tools, and know-how across Europe. While the importance of electronic communication will no doubt increase, direct contacts between the people involved will remain important. The current annual volume of transnational student placements and staff exchanges indeed implies thousands of negotiations and discussions every month, often between people for whom this is a first time experience. It will therefore remain an important challenge to the ensure the continued credibility and high quality image of this type of operation.

The quality of the exchange programme is partly dependent on the preparation (linguistic, cultural or professional) of the students and staff before they go abroad. Member States and the Commission need to examine more closely how this could be achieved in a more structured manner, so as to improve the return for both the individual and the host organisation. The development of guidelines for those staff monitoring placements would also be a worthwhile investment.

More research on the most effective and efficient network structures and cooperation procedures appears appropriate. The COMETT experience has also shown that these small mobility projects lower the threshold for industry-university cooperation and often open an avenue for other forms of collaboration. Examining this issue in more depth would also be useful to determine the possible involvement of the network structure for other forms of mobility - or to let other exchange initiatives benefit from the rich UETP experience.

A final point concerns the legal and social security issues regarding students on placement, especially when undertaking longer placements, which are generally considered to be the most worthwhile investment for all parties concerned.

5. Transversal themes

5.1 Cooperation and links with other European programmes

5.1.1 Introduction

The first main recommendation presented in the evaluation report by the panel of experts is: "*The objectives of the COMETT Programme must be a coherent part of EC policies for human resources, economic, technological, social and cultural development, and take account of the Maastricht Treaty, its associated Structural Fund regulations and the Framework Research and Development Programme.*" '*A coherent part of EC policies*' means coherence with European programmes in Education and Training (such as ***ERASMUS, TEMPUS, FORCE***), Research and Development programmes (such as ***ESPRIT, BRITE-EURAM, DELTA***)[6], as well as other European initiatives (e.g. ***SPRINT*** and the ***Social Fund***).

Most people in industry and education would no doubt agree with the above recommendation. In most national evaluation reports there is almost consensus about this issue. Both in the EFTA countries and in the peripheral regions of the Community itself, COMETT has often been perceived and used as a gateway to greater integration and an opportunity to overcome national and regional handicaps for cooperation.

The rationale for seeking links with European research and development projects is clear: in the light of competitive pressures, the globalisation of markets and technological development, it becomes more and more important to harness the fruits of research efforts, and make sure that these are effectively applied to the benefit of European society and its economy. The rationale for linking COMETT with other education and training programmes is the demand for a coherent European Union training policy and education cooperation framework, across all categories and levels of people. This same rationale is now explicitly recognized in the new LEONARDO and SOCRATES programmes.

The overall result is that, while COMETT has been more successful in creating links than any other European Programme, synergy was "modest". Because of COMETT's strong focus on training for technology, the emphasis in the evaluation and monitoring reports has often been on links and coherence with Research and Development programmes, but this section will look at education and training programmes as well. The discussion relates predominantly to Strand C (training projects) and Strand A (consortia).

[6] Please note that the successor programmes to these programmes have been given other names in the 4th Framework Programme.

5.1.2 Links with R&D programmes

Quantitative data about links between COMETT Strands and other European Programmes show impressive numbers. The following figures give the average number of links of COMETT projects with Research and Development Programmes:

- 1 link per UETP supported under Strand A
- 1 link per 3 projects in the category short courses (Strand Ca)
- 1 link per 3 projects for the joint training projects (Strands Cb, Cc).

By multiplying these averages with the numbers of UETPs and training projects, and adding the somewhat less frequent links in Strand B (student placements and staff exchanges), one sees emerging thousands of links between COMETT projects and other European R&D initiatives.

Most frequently reported R&D programmes with links with COMETT are:

- Telematics for Flexible and Distance Learning (DELTA) (in particularly in Strands Cb and Cc)
- ESPRIT
- BRITE EURAM
- SPRINT (notably in Strand A)

while many linkages with RACE, STRIDE, IMPACT and VALUE are also reported.

Cooperation between COMETT and European R&D-programmes

Telematics for Flexible and Distance Learning (DELTA). One area of strong and long-standing cooperation at project level has been with the DELTA programme, which was concerned with the development of technologies and systems tailored to the design, distribution and delivery of training materials. To some extent DELTA can be said to be the "container" of innovative education and training approaches, whilst COMETT-projects were looking at the "content". A number of DELTA projects have used COMETT outputs in their activities and, vice versa, DELTA projects have facilitated the development and delivery of COMETT projects.

ESPRIT. This major R&D programme on Information Technology includes many sub-programmes, for most of which many links with COMETT have been reported. Of particular relevance was the ESPRIT VLSI Design programme, which was designed complementary to COMETT, notably by directing its support towards initial education at universities. But at the same time, the programme profited from the COMETT experience and its training products for setting up training areas. An example of a more structural level of cooperation with ESPRIT has been in the analysis of IT training needs.

BRITE-EURAM. An example of the synergy pursued by COMETT has been through supporting training activities in the Aeronautics area, which is of special concern for the BRITE-EURAM programme. Although administrative procedures did not facilitate direct cooperation, some 20 COMETT training projects in this area were supported, also known and partially followed in DG XII. The best example of the cooperation is COMETT's pilot project ECATA on advanced training for the aeronautics industry, which emerged from a DG XII initiative.

SPRINT. Many contacts, exchanges of views and mutual attendance to events have taken place over the life of both SPRINT and COMETT. One of the first outputs were a number of joint studies, such as in relation to the role of Industrial Liaison Offices (ILOs) in universities.

IMPACT (Information Market Policy Actions). In the framework of the IMPACT programme, projects dedicated to train electronic information service provider and university teachers have given technical assistance to the COMETT programme.

One must be careful, however, when interpreting the quantitative data. A more detailed analysis has found that a 'link' reported by a COMETT project with another programme is not necessarily the same as coherence. In many cases it only means that the same organization is involved in several European programmes, with a loose link at the subject level. Evaluation and monitoring reports have recommended that coherence between programmes like COMETT and other European programmes be improved.

So, despite the many good reported examples of real coherence and cooperation at programme level, the outcome is not entirely satisfactory. Often, participation in other programmes serves to cement and reinforce the COMETT collaboration, even if the links were only indirectly relevant to the training activity being pursued. Nevertheless, there are strong arguments in favour of better and structural coordination of programmes concerned with the dissemination, valorization and transfer of EU sponsored R&D programmes.

It should also be recognized, however, that COMETT did much more than support the transfer of R&D-results related to European programmes. Indeed, only some 5% of R&D in Europe is supported through European initiatives. Many COMETT projects indeed focused on the interregional transfer of locally developed knowledge and technology.

Another aspect to be borne in mind is that COMETT is not only concerned with advanced research. Probably more than half of COMETT projects are closer to the final stages of the technology development cycle, already with some distance from applied research, and notably from European R&D programmes which are, by definition, precompetitive. This 'technology profile' of COMETT projects was the result of the selection process, which with regard to relevance and direct applicability of the training, is what one can expect.

Improving cooperation between education and R&D programmes does not emerge by itself: it needs structural support. On several occasions the idea has been put forward - both by project promoters as well as by experts and evaluators - to recognise UETPs more formally as a mechanism for technological cooperation in training and R&D at European level. Within the new LEONARDO programme, the UETP-type structures supported would benefit from formal recognition by R&D programmes to act as a broker, a facilitator of cooperation between research and education projects. It would also respond to the clear wish for cooperation at project level which has been expressed by the actors in the field. It is very probable, that for such coordination to be effective at project level, there is a requirement for far greater cooperation at the European inter-Programme level.

5.1.3 Links with programmes for education and training

When considering the number of links between COMETT and other European programmes in the area of Education and Training, the figures are again impressive. The links are even more numerous than those with R&D programmes, on average:

- 2 links per UETP
- 1 link per 3 projects for the short courses (Strand Ca)
- 2 links per 5 projects for the joint training projects (Strands Cb, Cc).

There are also many links in Strand B, particularly between student placements supported under COMETT and student exchange programmes supported by ERASMUS.

Overall, the relations developed with European Education and Training programmes are not only more numerous but appear to be much more direct than in the case of links with R&D programmes. This seems logical since COMETT is pre-eminently an education and training programme, and it is more natural for an ERASMUS or FORCE project to expand into COMETT (or vice versa) than for say, a BRITE-EURAM project.

An important observation is that over the life time of COMETT, the number of links has been growing steadily. This is both related to the dynamic of COMETT itself, and to the increased possibilities and participation levels in the other programmes. There is now hardly any higher education institute in Europe which has not participated in either ERASMUS, COMETT, LINGUA or TEMPUS.

Main links between COMETT and other European education and training programmes

As regards the UETPs in Strand A:

- 3 out of 5 indicate a link with TEMPUS
- 2 UETPs out of 5 have links with FORCE
- 2 out of 5 UETPs have links ERASMUS.

Other programme links include LINGUA, EUROFORM, PETRA, NOW, EUROTECNET, IRIS and SOCIAL FUND activities.

Lower numbers hold for the short course projects in Strand Ca:

- 1 Ca out of 8 is linked to TEMPUS
- 1 Ca out of 10 has links with ERASMUS
- 1 Ca out of 20 is linked to FORCE.

A similar pattern is found in Strand Cb/Cc:

- 1 in 8 Cb's has links with ERASMUS
- 1 in 8 Cb's has links with TEMPUS
- 1 in 9 Cb's has links with FORCE (this figures has been increasing over the years)

Other programme links for this Strand include notably EUROFORM, EUROTECNET and LINGUA.

A common criticism reported by project participants is the variety and sometimes complexity of European support and funding mechanisms in the area of education and training. It is not always obvious for which programme a project should be submitted and/or to understand the sometimes subtle differences between programme components. In response to this criticism, the Commission has streamlined the whole process by reducing

the number of major education and training programmes to two, SOCRATES and LEONARDO.

5.2 R&D, Training & Innovation

5.2.1 Introduction: innovation in the European Union

All vibrant societies, all flourishing economies are in a state of continuous innovation. Not to innovate is to stagnate, eventually to die. The R&D potential of Europe's universities and research institutes is core to such change. The Commission's ***White Paper on Growth, Competitiveness and Employment*** notes: "*Research and technological development can contribute to renewing growth, strengthening competitiveness and boosting employment in the Union. However, in order to achieve this a series of conditions must be satisfied: an adequate level of funding; an appropriate range of research activities;* ***and effective mechanisms for transferring the results***."

The ***Bangemann Report*** to the European Council goes further than simple innovation. It speaks of: "*This revolution (which) adds huge new capacities to human intelligence and constitutes a resource which changes the way we work together and the way we live together.... Europe's ability to participate, to adapt and to exploit the new technologies and the opportunities they create,* ***will require partnership between individuals, employers, unions and governments dedicated to managing change***."

When COMETT was established in the mid-80s, the Programme was, in fact, asked to address central aspects of these challenges which now figure so prominently on the European Union agenda. COMETT was required to develop effective mechanisms for transferring the results of R&D through education and training, and at the same time to build up a cooperative partnership between researchers, universities and industries. This section of the Final Evaluation Report discusses briefly how effectively this core technology transfer activity - transforming R&D into social and economic innovation - has been undertaken and what lessons there might be for current and new European Programmes.

5.2.2 COMETT's role in the technology transfer system

In many European countries, much, sometimes most, R&D spending takes place in universities. The transfer of this knowledge into enterprises and other structures which can either exploit it commercially or benefit from it - or both - is at the heart of COMETT. However, transferring R&D results from higher education to industry, from one institution to another, is not a straightforward handing over of a "package". The results of an institution's R&D is most often an ill defined, and possibly non-definable, collection of skills, knowledge, techniques and tacit information. Transferring this from the laboratory bench to a company which is under commercial pressure, with limited time and financial horizons poses many problems.

By and large, those in the COMETT programme who have coped best with these conundrums, have been those in a position to take a system approach. Here, the various technology transfer activities, ranging from superficial information gathering or update

activity to contract R&D or even spin-off company activities, are taken as part of a continuous spectrum in which companies can participate at whatever level they find appropriate at the time in question. This system might be called "the family" of technology transfer activities. Within it, the actual amount and importance of associated training required is often vastly underestimated by industry itself. Thus, the obvious implication of this system approach is that COMETT training activities should preferably be linked institutionally to those offering other technical transfer facilities.

Closely allied to the issue of promoting a systems approach to technology transfer, is the nature of the actual interface presented by COMETT projects to industry. Companies differ in size and structure. The fundamental nature of the technology for transfer varies from sector to sector, as does its place in the continuum from basic research to very applied, development work. These differences require a corresponding flexibility in the way in which COMETT activities are undertaken with industry.

Section 2.4.1 on the strengths of UETPs indicated that, by and large, consortia which are positioned in dedicated technology transfer units are, perhaps not surprisingly, most effective in technology transfer. The flexibility and responsiveness of the interface which COMETT activities can present to companies in such a situation is crucial. Projects operating from a university department may be strongly linked to academic activities and requirements, and may find it difficult to respond easily to commercial necessities. The interface to university R&D and technology may not be as responsive as in a dedicated technology transfer unit or an associated research institute. In a similar vein, evaluations indicate that development of the pilot and joint training projects operated most effectively through a partner who could provide the professional interface to potential client companies.

The importance of placing COMETT technology training activities in an appropriate system with a flexible interface is further reinforced by the need for an incremental approach in undertaking technology transfer with companies, particularly SMEs. In working with SMEs, a gradualist approach is necessary which takes firms through a series of activities which permits the potential partners to get to know each other. Commencing with small scale activities, such as information and low level consultancy implying low risk and low investment, those involved can then move on to education and training activities and then on to more intensive technology transfer projects including contract research.

The COMETT experience suggests that keeping advanced European technology training activities separate from a context where such an integrated and incremental approach is possible, results in two particularly negative aspects. Firstly, it creates the need for disruptive quantum jumps in working relations with companies. Secondly, and most importantly, it disrupts the information flows between the individuals working with the university and the enterprise. It becomes harder to pass information on company activities and needs resulting from work in the area of training, in order to support consultancy, contract research or joint venture activities - and vice versa.

5.2.3 COMETT's social and organisational innovation

It is now well accepted that the effective exploitation of R&D requires parallel social and organisational innovation. It is important to remind ourselves that one of the most

important successes of COMETT has been in producing and disseminating such innovation. The main strands of this social and organisational innovation include:

- the development of European and regional networks for the flow of R&D and associated skills and information; and so contributing to the development of a European science and technology space
- the organisational changes induced in many higher education institutions to accommodate and certify the experiential learning of student placement; as well as, in firms, the organisational development required to integrate the student and his/ her developing technical skills into being a productive part of the company
- the integration of user enterprises into the early development and testing of training materials.

Innovation has also taken place at the level of individuals, since all R&D and innovation is ultimately embodied in human thought and practice, attitudinal change has also been important.

It is important to realise that these non-hard technology innovations, which were particularly numerous within COMETT, are as crucial to the exploitation of the technology as the generation of the technical innovation itself.

5.3 Participation in COMETT by type of organisation

5.3.1 Introduction

The mere consideration that COMETT involved over 30 000 organisations from all over Europe directly in its projects shows that the programme has been fairly successful in its catalytic and awareness raising functions - in relation to the budgetary conditions under which it had to operate. The mobilisation of such a number of organisations is another indication of the European added value of the programme, in particular when one realises that for many of these, the participation in COMETT was the first European programme involvement. At the same time it should be recognized that the average level of project participation was typically not very high - not unsurprising given the huge numbers of organisations involved and the relatively modest funding levels available.

Because of its main objective to foster European cooperation between universities and enterprises - in the broadest sense - COMETT has resulted in the establishment of an extremely varied range of partnerships, consisting of all kinds of participating organisations. In each partnership there is at least one higher education institution; to some extent they have been a stable factor in COMETT projects. On the other hand, the involvement of enterprises and other organisation has been of a much more variable nature. Enterprises exist in all sizes and types. Their focus of activity can be extremely diverse, including traditional manufacturing, high-tech research or consultancy. The picture is even more varied for the 'other' types of organisations (see below). Thus, diversity of partners and their core objectives implies a diversity of participation models. Participation levels will vary from a very active participant to a 'sleeping' partner. And project involvement may range from concentration on one set of activity to a range of contributions spread over the project life time.

There is diversity also in the results of all efforts brought in by the many partners. COMETT produced a diverse set of outcomes in many technological and sectoral fields, it created opportunities for many people to cooperate, and to develop and use education and training possibilities. The next paragraphs briefly discuss the extent of participation of different types of organisations towards realising these outputs:

- universities and other higher education institutions
- enterprises
- other organisations.

5.3.2 University participation

Although universities are not the largest subset of organisations involved in COMETT - which is understandable since there are less than 4000 higher education institutions in the EU and EFTA - the extent of their participation has been most significant. A few universities even showed up in over 100 different COMETT projects. The more general and common characteristic was their active involvement in projects: in most projects in all COMETT Strands, university people were the driving force.

This is not surprising. Indeed, most types of activities supported by COMETT are part of, or strongly related to, the core business of universities. COMETT offered universities an excellent opportunity to disseminate their knowledge and research findings, through mechanisms they were in general familiar with. The design of the COMETT programme and the culture within the higher education community were compatible with each other. In addition, the funding available was considered a welcome addition to many universities keen to explore new types of cooperation, or, in the case of student placements, to respond to growing student interest and demand.

Some additional reasons why universities took a fairly active role in COMETT:

- the university world has always been international; European cooperation presented few additional hurdles
- the relatively open university culture facilitates cooperation, while in companies confidentiality and commercial aspects have to be considered
- the need to become more responsive to market needs and governmental budget restrictions forced many universities to seek new avenues, just at the moment when COMETT became operational.

The active role of universities is reflected by the range of project functions they have assumed. In mobility actions, universities were often the driving force - although the increasing interest from industry as a result of COMETT should also be noted. In joint training projects, more often than not, university staff took the first initiative, and then continued coordinating and leading throughout the design, development and delivery phases. Their important - but certainly not exclusive - role in the delivery of lecturers and trainers should also be highlighted. A weak point in university participation has generally been their often poor marketing and dissemination of project outcomes. For most universities these were new activities; through COMETT many came to realise that an excellent researcher or lecturer is often not very good on the marketing side.

In summary, therefore, the participation of higher education institutions has been essential for COMETT, and their contribution to the programme's success has been very substantial.

5.3.3 Enterprise participation

An estimated 20 000 enterprises were involved as partners in COMETT projects, of which more than half were through student placement arrangements. The prime criterion for a company to join a COMETT project will always be the benefit it may gain from it, be it immediate or long term. The benefit may be realised both by contributing to the project development as an active partner, or by merely using and exploiting the outcomes. This is most obvious in the case of student placements and staff exchanges, where the direct advantages for companies are very visible, and are often accompanied by longer term benefits. As a result, the extent of direct involvement of companies was in general higher in Strand B than in the other Strands.

The data available suggests that, overall, about 20% of participating enterprises showed fairly strong participation, 40% medium, and 40% weak. Although this distribution can hardly be considered as being optimal, one should realise that 20% strongly involved firms still means some 4000 companies. In all COMETT Strands it was very uncommon to find enterprises coordinating a project. When considering more specifically the training projects and partnerships, not surprisingly, most firms' principle interest in COMETT projects has been in their outputs rather than their development. However, a substantial number of the companies participating in COMETT projects have been a 'supplier' - a direct provider of services - to the project. This applies particularly to considerable numbers of SMEs in the software, consultancy or professional training sectors. Obviously, here, an important motive for participation has been the opportunity to deliver their services.

As for those more interested in the outputs as a means of updating the knowledge and skills of their workforce, the main contributions of companies have been:

- provision of placements to students (and sometimes university staff)
- input to training needs analysis
- provision of specialised knowledge and expertise
- lecturing

On the other hand, the input of 'user' enterprises in the design and realisation of training materials has been relatively limited.

Finally, it is risky to draw general conclusions from these and other findings. The COMETT experience has shown that the type and nature of industrial involvement is extremely variable - much more than in, say, European R&D programmes - and takes many different forms. It changes and fluctuates, moreover, over the life of the project.

5.3.4 Participation by other organisations

Although COMETT put the concept of industry-university cooperation central in its operation, both the notion of 'industry' and that of 'university' were very broadly interpreted. As a result, several thousand other and different organisations have joined the programme - in total over 5000. The following main groups can be distinguished:

- economically active organisations which employ people but are in general not considered as 'companies': hospitals, utilities, transfer agencies, etc.
- public authorities and semi-governmental organisations at local, regional, national and international level

- professional organisations, such as chambers of commerce, employer federations, trade unions, professional associations, etc.
- scientific and education organisations: research institutions, research associations, education consortia, etc.

All these groups have been involved as partners in COMETT projects across all Strands and countries.

In relation to COMETT, a rearrangement into two main groups is most useful:

- those organisations which are close to the 'enterprise' concept and culture, including all kinds of private and public employers, as well as organisations representing or interacting with enterprises (professional organisations)
- those organisations which are close to the (higher) education and research community, such as research institutes.

About 2/3 of the 'other organisations' involved in COMETT belong to the first group.

The rationale for participating in the COMETT programme varies:

- for the first group the motivation is often similar to that of the enterprises themselves, whereby the project provides a platform to connect other enterprises to the development; professional organisations such as chambers of commerce are to be found in particular in Strand A, while 'other employers' are also frequently encountered in Strand C projects (e.g. a hospital involved in a training project on medical technology)
- for the second category the main drive is often the opportunity provided by the project for the transfer and exchange of knowledge and research results; these organisations have been active in all COMETT Strands.

Overall, the non-restrictive interpretation of the concept of 'industry-university' has resulted in an enrichment of the programme, both as regards the quality of the projects, as well as concerning the multiplier role they have played towards other organisations, notably SMEs.

5.4 Impact of COMETT on SMEs

The Council Decision on COMETT II includes amongst its objectives:

"(...) to respond to the specific skill requirements of small and medium-sized businesses (...)"

Whether this objective has been achieved is difficult to assess. On many occasions it has been said that SMEs did not participate very satisfactorily in COMETT. The panel of independent experts even said in their evaluation report: "*The COMETT Programme, like many other Community actions, is not sufficiently well-tailored to meeting the needs of SMEs ... they do not appear to have easy access to the programme.*" If this were true, there would be a serious mismatch between the programme's objectives and the way its operational mechanisms have been designed and implemented.

It is, however, very difficult to gain clear insight into the real impact of a European programme like COMETT on SMEs, for a number of reasons:

- there are millions of SMEs in Europe, of which only a limited number could be interested in a (technology) programme like COMETT
- activities of SMEs are highly diversified, from consultancy to manufacturing, and from R&D to training
- in the Comett context SMEs are defined as firms with less than 500 employees; nevertheless a firm with 10 employees will have very different needs than a firm having 450 employees
- many SMEs are subsidiaries of, or strongly linked to, other firms, and follow the training and other policies of these companies.

So making generalisations about 'SMEs' is dangerous, and one has to be very careful about drawing conclusions.

A first question concerns the extent of SME participation in the programme. The following figures - using the COMETT definition of an SME - are self-explanatory:

- about three quarters of all enterprises participating in COMETT projects are SMEs - or approximately 15 000 SMEs by the end of the programme
- about half of these SME's have less than 50 employees
- in 80% of COMETT projects at least one of the partners is an SME
- a UETP has typically more than 10 SMEs amongst its members
- for the short courses the average number of SMEs per project is about 4; for the larger training projects the number is about 5 to 6.

These figures are impressive. However, a closer analysis reveals that 40% of SMEs in COMETT projects are in a dominantly "supply" or "delivery" role. This means that their main motivation to participate is to deliver a contribution, not to act as a beneficiary. Especially in Strand C (Training Actions) this is clear: 2/3 of SME participants in this Strand act dominantly as suppliers to the project. Software companies are the most explicit "supply" sector. Thus, although the results are not as significant as the raw data may suggest, the overall impression remains very positive, especially in the light of COMETT's catalytic function and the programme constraints, such as the fact that projects are not necessarily directly financially or commercially attractive, and that they require transnational industry-university collaboration.

Thus, despite its constraints, the programme must have a number of other attractive features for SMEs. It would appear that the complexity of COMETT with its varied range of measures, criteria and activities has proven to be a rich breeding ground for all kinds of different SME-related training initiatives. A more focused programme would probably have seen a much smaller and less varied number of SMEs participating. These considerations notwithstanding, it remains a valuable recommendation to continue to reflect on how access by SMEs to programmes and their outputs can be simplified.

Another observation is that, although participation numbers are high, the role of SMEs as project partners is in general modest. In Strand C, for instance, in only 20% of cases were they found to be actively involved in the project development, and only in a few cases had they an important role in decision-making. It must be recognized, however, that several of the COMETT programme criteria and requirements are to some extent incompatible with SME modes of operation. SMEs in general have no long term perspective, and therefore it is far from self-evident for them to become involved in the risky type of project development activities which COMETT supports.

Active project participation is, however, not a condition for reaping benefits from a successful project. Many SMEs have been in touch with the programme without being a participant in any of the projects. An estimated 40 000 SMEs will have directly or in directly benefitted from COMETT II. This means that some 200 000 employees from SMEs have, in one way or another, profited from the outcomes of COMETT projects.

SMEs and advanced technology training: potentially conflicting objectives within COMETT

In relation to the 'advanced technology nature' of COMETT, it is useful to point out an important difference between SMEs and large firms. Most large companies have research facilities and highly specialized R&D staff. This facilitates industry-university cooperation, since it may essentially concern knowledge exchange and transfer between research groups. In such a context even enterprise-enterprise cooperation can be worthwhile, as is shown within the many pre-competitive European R&D projects.

But SMEs rarely can afford to have proper and well organised research facilities, in particular in the manufacturing sector. For most SMEs, the immediate applicability of knowledge and skills gained is a condition for survival. And for new technologies and updating of knowledge they are highly dependent on what is offered outside. It is therefore no surprise to find within COMETT that, the more applied and less R&D intensive the nature of the COMETT activity, the higher the success has been in attracting SMEs. Despite the existence of many high-tech SMEs, this finding also suggests that the focus on advanced technology transfer may sometimes be incompatible with the desire to involve a large number of SMEs.

Finally, let us remind ourselves that SMEs which join a programme like COMETT, share a common and normal characteristic: they want to draw benefit from it, which implies increased profitability over the short, medium or long term. The success of a European programme with SMEs is determined by how effectively SMEs are convinced of the benefit they may get from being involved in the projects. Profit making and potential for improved competitiveness of those involved are to be recognised as necessary conditions for the strong involvement of SMEs in any European programme.

5.5 Regional impact of COMETT

5.5.1 The development of regional infrastructure

One of the greatest contributions of COMETT to the regions has been what one representative of a participating country has called: '*the provision of a legitimate and democratic forum for the discussion of university-industry cooperation*'. This forum has manifested itself mostly through the activities of regional UETPs. In regions with limited of such infrastructure, mostly in the less favoured and peripheral areas of the European Union, COMETT appears to have provided, sometimes for the first time, a legitimate meeting ground for higher education, industry, and other interested private and public bodies. From this forum many regional initiatives developed, further strengthening local infrastructure and development. The strength of this effect is to be seen in the level of co-funding and regional project funding achieved by some UETPs.

At an individual UETP level, those most effective in promoting general regional development issues have, perhaps not surprisingly, been located in regional development agencies or similar bodies. UETPs which were successful in this regard have tended to incorporate major regional decision makers, who were explicitly using COMETT exchange and training activities to support regional development plans and to integrate these activities with regional ESF and ERDF projects. A few dozen COMETT regional UETPs could be classified in this category, predominantly in the less advanced regions.

COMETT has also, on occasion, acted as both a forum and a model for regional policy development. This occurred particularly where regions had a greater than average autonomy in developing educational and more general regional economic policy. In one country, COMETT even acted as a base for the development and implementation of regional and county strategic plans in the area of higher education-industry cooperation.

The specific intra-regional development actions undertaken by COMETT include:

- bringing regional higher education institutions together to cooperate and coordinate their offer of advanced continuing education to local industry
- bringing regional industry and universities together to discuss relevant concerns and possible cooperation in higher level education and continuing education
- providing a platform for discussion and action on wider aspects of local technology transfer
- the undertaking of regional and local training and skill needs analysis
- the creation and development of specialised regional networks to address specific regional issues at a sectoral level and at a topic level
- the active participation in regional development programmes
- the direct development and provision of training to regional industry
- the introduction of new training delivery techniques, bringing the training to a wider audience within the region
- the development of a regional unit of operational expertise in dealing with European programmes, particularly those in education and training and to a lesser extent those in R&D.

It is recalled from Section 1.3.3 that in 1991 a series of "Positive Actions" were launched. Among other things, these actions sought to identify and correct structural and functional problems in the implementation of COMETT at a regional level and were particularly important in the development of COMETT and higher education-industry cooperation activities in the less favoured regions of Europe and the new German Länder.

5.5.2 Inter-regional integration

COMETT has had a particularly strong impact in developing inter-regional cooperation - well beyond the specific activities supported by the programme. Again the UETPs have been central in this process, providing a structured, responsive and easily identifiable initial contact point for those seeking partners in a region. The variety of participants involved in UETPs has made such partner seeking all the more effective. Also the fact that most European regions hosted a UETP has been important for the levels of cooperation and involvement achieved.

COMETT's mobility activities have contributed strongly to opening up regions to a much wider European influence with an influx of new technologies, new cultures, new ways of seeing and doing things. This has taken place for higher education institutions, students and perhaps most importantly for SMEs. It has led to a number of developments including:

- the transfer of technology between EU regions
- the linking of universities sending and enterprises receiving students across participating countries
- the creation in enterprises of an awareness and future contacts in other European regional markets
- the development of research and development personnel with a European outlook, and the availability of such personnel to local enterprises. This includes the improvement of linguistic abilities.

In the development of all forms of training products, the inter-regional approach has been of most importance in improving course quality. In addition, the national evaluations undertaken indicate that COMETT has improved the availability of specialised technical courses in peripheral regions. Such regions do not have the critical mass of industry and higher education to provide for the wide variety of specialisation available in core, more developed regions. Their consolidation into a more integrated European training market makes for better access.

In conclusion, this inter-regional technology (and cultural) transfer has been a mainstay of COMETT in achieving regional integration and increased European cohesion. While it has taken place most obviously through mobility actions and delivery of training courses, other less obvious technology transfer has occurred through working on pedagogics and training delivery techniques. Equally, organisational and management structures required in enterprises and universities to exploit new technologies effectively have formed part of the inter-regional transfer.

5.6 Equal opportunities between men and women

The issue of equal opportunities for men and women is explicitly addressed in the Council Decision on COMETT II. The objectives include the statement:

'(...) to promote equal opportunities for men and women in initial and continuing training in, in particular, advanced technology (...)'

However, neither in the Council Decision nor in the COMETT II Vademecum are criteria or guidelines for implementation of this objective given. The issue is overlooked in the evaluation report by the panel of experts, and the same holds for most of the national evaluations. The GMV Evaluation Report notes on this topic: "*COMETT has not had a particular effect on strengthening equality of opportunity between men and women in the training sphere; none of the project initiators met made reference to a conscious policy in this sense*[7]. *In the poll sample, women represented 31% of course*

[7] Only a sample was surveyed; there are of course a number of COMETT projects which have such a conscious policy, including a UETP focusing on this topic.

participants and 38% of COMETT students, which, however, according to experts, seems to be a representative proportion of the European student population in the scientific and technological domains. Thus, no discrimination was noted."

This observation summarises well the situation, but it remains worthwhile to consider some more details. In the area of student placements, in particular, the continuous increase of female participation should be mentioned. In COMETT I, the percentage of female students receiving a placement grant was 36%; by the end of COMETT II the figure will have risen to 43%. This percentage comes close to the female participation in higher education and exceeds by far that of female students in engineering education. The data available actually shows that the male/female distribution in COMETT placements to a large extent reflects the distribution in the particular discipline or programme of study (e.g. engineering, exact sciences, management, etc.) in higher education.

The increase of females in COMETT placements is most likely attributable to the wider range of disciplines making use of it, reducing the relative importance of engineering students (where females represent only one quarter).

In the area of training courses, the figures on female participation have been quite stable over the years. Since 1987 the annual attendance of females to COMETT courses has fluctuated around 22%. This no doubt reflects that the composition of the target group is quite stable (unlike the university students): for many COMETT courses the trainees need to be people with certain degrees, in particular in engineering, and/or in certain positions, notably middle management posts in production and research and development areas. Both categories are still dominantly male - a situation COMETT can do little about. Thus, when 22% of the trainees in COMETT II courses are female, this would appear to be a realistic representation of the target group.

It can also be mentioned that females are very well represented within projects as project staff, in particular in Strands A and B. Another observation to be reported is that projects which were particularly strong on promoting equality between men and women - which currently comes down to the positive discrimination of females - are very uncommon; moreover they were often weak on other COMETT criteria.

In conclusion, the objective of promoting equality between men and women is probably the one which has been given least attention to, both at programme and project level. This can be explained by the fact that the COMETT programme design did not include any specific action which could have facilitated it. It also results from the recognition by programme and project staff that, in the end, a programme like COMETT can do very little do about a problem which is rooted in choices and attitudes of girls in secondary education. At the same time the figures available clearly show that no discrimination of either sexes has taken place.

5.7 Industry-University cooperation

Probably one of the most original features of COMETT was its strong requirement of industry-university cooperation in projects[8]. As shown in the previous sections and chapters, this collaboration can take many different forms. Despite criticism on the effectiveness and outcomes, few will nowadays state that such cooperation is useless or needless. The objectives of industry-university cooperation vary depending on the situation. Three major arguments are often put forward:

- faster industrial application of findings from research
- improvement of the output of technical qualifications
- more effective transfer of technology between sectors and regions.

In Europe the awareness has grown of the need and importance to reinforce the technological base through cooperation, both on an international level, and between universities and companies. For many people in industry and higher education, COMETT has been one of the first major opportunities to develop such collaboration on a systematic and structured basis. As a result of COMETT a number of long lasting partnerships between universities and industries partners have been created. In all evaluations of the programme, these cooperation opportunities and the resulting partnerships are highlighted as a positive and satisfactory aspect.

Despite these generally positive evaluation results, there are some critical remarks to be made as well. Many of the partnerships created through COMETT had difficulties getting off the ground, whilst others faced many other difficulties. Amongst the reasons for this are reported, in relation to industry:

- main interest in short-term problems and solutions
- lack of familiarity with the opportunities offered by COMETT (and other European programmes)
- unwillingness or unpreparedness to participate in the training project development process, through input of experts and support (a remark often heard is: "*They only want outputs*")
- not used to thinking and acting at a European level.

Criticism regarding university involvement in cooperation projects with industry is mainly concerned that:

- they are too academic, i.e. too far away from the concerns of application
- their procedures are too slow, resulting in long development times before results become available
- they are not flexible enough.

There are, however, a number of trends which help in reducing the problems involved in industry-university cooperation in education and training:

- the awareness within industry of the benefits and long term advantages of more systematic cooperation is growing
- firms increasingly become aware of their wider responsibility, both economic and social, with regard to initial and continuing education
- because of constrained or reduced public financial resources, universities become more inclined to think in terms of client-oriented activities.

[8] It is recalled that both 'university' and 'industry' should be interpreted in the broadest sense.

COMETT has contributed to these trends and developments, notably by showing that:

- most successful cases of cooperation occur when the cooperation is adopted as a means of achieving specific goals
- cooperation is best achieved when those involved agree that the cooperation gives results which are demonstrably better than would be achieved by university or companies working on their own
- cooperation is an effective way of matching supply and demand in complex and novel areas.

In conclusion, it has been an important accomplishment of COMETT to have raised the awareness in both industry and academia of the added value of cooperation in the field of education and training. This has been particularly true in countries and regions where such cooperation mechanisms were barely developed. The information available also suggests that this result is irreversible, in the sense that the large majority of organisations involved in such collaborative ventures intend, despite the problems encountered, to continue to be involved in such cooperation mechanisms in the future.

5.8 The sectoral bottom-up approach within COMETT

The Council Decision on COMETT II includes an explicit statement about the technology content of COMETT projects. Key terms are: "... *reinforcing training in, in particular, advanced technology, ... COMETT II will facilitate innovation and technology transfer* ...". The basic mechanism which was supposed to achieve this goal was cooperation between enterprises and universities across Europe.

Perhaps surprisingly, explicit references to technology and sectoral issues were scarce in the official COMETT documentation. In any case, the information available gave no clue as to in which sectoral or technological direction the COMETT programme should go: indeed, the main option chosen appeared to be essentially a bottom-up approach.

Given the objectives of COMETT, a strategic choice could have been to target activities which were most relevant to particular industrial or economic sectors (a sectoral approach, partly followed in the FORCE programme) or to certain fields having potential for application in many different circumstances and industries (a technology or discipline-based approach, also followed in many R&D initiatives under the Framework Programme).

No such explicit choices were made at the beginning of COMETT. Project activities might either be targeted at an industrial sector, at a technology area or both. A hybrid, COMETT-specific sectoral classification system was developed for that purpose, and the terms "area", "field", or "sector" have since then been used interchangeably to refer to the subject of training in projets.

The sectoral distribution of the projects accepted in general reflects the submission profile. However, some sectors were more successful than others, related to the particular qualities of projects presented within that area. The table (next page) shows a

ranking of the 15 highest funded COMETT sectors for three periods[9]. As one can observe, there are both 'technology fields' and 'industrial sectors'.

Ranking of COMETT Sectors (in terms of volume of support received)			
	COMETT I (1987 - 1989)	COMETT II (1990)	COMETT II (1991 - 1992)
1	Advanced Production and Manufacturing	Training (Technology and Methodology)	Advanced Production and Manufacturing
2	Innovation Management	Materials	Environment
3	Microelectronics	Health and Safety	Information Technology (general)
4	Information Technology (General)	Environment	Mechanical Design and Analysis
5	Materials	Mechanical Design and Analysis	Materials
6	Mechanical Design and Analysis	Information Technology (general)	Software Technology and Engineering
7	Architecture and Regional Planning	Innovation Management	Civil Engineering
8	Telecommunications	Microelectronics	Training (Technology and Methodology)
9	Data and Information Processing	Biotechnology	Telecommunications
10	Software Technology and Engineering	Civil Engineering	Agro-food
11	Training (Technology and Methodology)	Advanced Production and Manufacturing	Production and Manufacturing (general)
12	Biotechnology	Production and Manufacturing (general)	Architecture and Regional Planning
13	Civil Engineering	Telecommunications	Production Management
14	Agro-food	Agro-food	Health and Safety
15	Health and Safety	Architecture and Regional Planning	Biotechnology

Clearly, the bottom-up approach has resulted in a selection of projects which were predominantly technology based, rather than oriented towards an industrial sector. This is probably due to the strong drive by universities and the emphasis on the link with Research and Development programmes as stated in the Council Decision. The

[9] 1993-94 is not included, since no major A and Cb-projects were accepted, and since it is not really possible to classify the pool projects into particular areas.

COMETT allocations are an indicator of the quality and the quantity of the demand in a certain area. The figures and trends show that:

- the quality of the broad set of most important sectors has not changed significantly over the years
- the need for advanced, project-based industrial training may fluctuate significantly and rapidly
- the COMETT selection strategy is based on a large number of criteria, which in their totality do not seem to lead to any sectoral prioritising.

The lack of clear patterns in the trends (exception made for the boost in Environment and the relative stability in a few sectors) give the important message that current sectoral trends in advanced training demand have little predictive value for the future, even in the medium term. It also confirms that COMETT's prudent bottom-up approach as regards sectoral priorities was entirely justified. Thus, leaving it entirely up to the enterprises and higher education institutions to decide jointly on which subjects to cooperate, rather than setting out 'target areas' appears to have been a wise decision which has also contributed to the success and continuous innovation in itself.

For completeness, some "top-down" initiatives should be mentioned. Under the "Positive Actions" initiative of 1991-1992, some funding was made available for a number of sectoral surveys of COMETT projects, as well as for some experimental workshops. These have strongly contributed to the understanding of the sectoral issues within COMETT[10]. Another sector-oriented decision has been the priority setting for sectoral UETPs in the 1992 Call for Applications, the main concern being to ensure broad sectoral coverage of COMETT at sectoral UETP level. Finally, a red thread throughout the management of the programme has been the emphasis on linking COMETT activities with other European programmes, in particular R&D initiatives, which has sometimes taken the form of concerted action.

[10] A synthesis of the surveys as well as further sectoral information is provided in the report 'A sectoral view on COMETT'.

6. Conclusion and main findings

6.1 Fulfilment of the Council Decision

The primary conclusion of this final evaluation of COMETT II must be a simple statement that **the Programme has been a major success**. This is not to say that there are no areas requiring some rethinking and change. However, the major strategic requirements of the Council Decision establishing COMETT II have been fulfilled.

COMETT II has improved the **contribution of advanced technological training to the economic and social development of the Community** through:

- the development of local and regional industry-higher education interfaces, and the creation of interfaces at European level
- the improvement of quality of courses and widening their availability
- the promotion, development and acceptance of experiential learning associated with industrial placement of students by higher education in industry

overall advancing social and economic cohesion within Europe.

COMETT II has fostered **joint development and the optimum use of training** through:

- the integration of industry into the joint development of courses
- the improved utilisation of technology education and training as an integral part of the technology transfer process
- the improvement brought about in the calibre and accessibility of training.

COMETT II has adhered to and respected the principle of **equal opportunities between men and women** through the projects it has supported.

COMETT II has made an important and direct **contribution to SME needs** through:

- offering, notably via the UETPs, a platform for improving business links, increasing technology transfer opportunities and widening their European horizon
- student placement activities which have accelerated their technical and economic development and their integration into the wider European market
- training courses and materials which have improved the development and management of their technical skills.

COMETT II has provided major **European added value** through:

- its development and in most instances creation of international networks dedicated to improving university-industry cooperation
- its important contribution to the internationalisation of placements activities
- the European dimension of the training activities supported
- its strong integrative and cohesive effect, in economic and social terms, across European higher education and advanced technology training.

6.2 Future strategy development

While COMETT II has been an undoubted success, there are a number of approaches, areas and activities which similar European initiatives might develop further based on the experience gained over the past five years:

- The **transition from a training to a learning based approach** has been seen in COMETT II and in industrial training more generally. Promotion of a "learning culture" and moves to the "Learning Organisation" place more emphasis on the learning process of individuals and teams. They require more attention to issues such as learning capacity, motivation and work organisation. Thus deep, strategic shift should be fully reflected in European education and training initiatives. It also calls for a new type of training of trainers.
- Closely allied to the shift to a learning rather than training focus is the move seen in some projects of COMETT II to place the purely technical elements for learning into a **wider skills acquisition strategy**. Here, issues such as project-based training, multi-disciplinary competencies, core competencies for both individuals, teams and firms were addressed. This approach deserves to be further developed.
- COMETT II has made major strides in improving and assuring the quality of course and materials provision. It is important that this advance be built upon. A **Total Quality approach** needs to be integrated into the operational fabric of education and training initiatives. Again, this is a key element in moves toward the creation of an effective "learning culture".
- Central to the improvements in university-industry cooperation brought about by COMETT has been the development of continuing technological training as a core part of **technology transfer** from universities to industry. The COMETT experience has pointed to the advantages to be gained from an institution being able to undertake an integrated approach to technology transfer, ranging from consultancy and short workshops to major contract research and even joint ventures. This integrated approach can yet again be seen as a move from "simple training" to the development of a "Learning Organisation".
- The **European dimension** has often been perceived as one of the most important value added of the COMETT programme, often yielding many indirect benefits for participants. This needs to be safeguarded and strengthened through more structural cooperation across various European programmes.
- It is important to guard against "**fashions and fads**" in training; what is sometimes promoted by small groups, is not necessarily what is needed by Europe.

6.3 Future operational development

COMETT UETPs have been called the "backbone" of the programme and a central reason for its success. COMETT II has pointed to a number of operational issues:

- COMETT experience has pointed to the importance of requiring such network nodes to quickly take on a legal character. This provides for a more stable node with better prospects of development.
- The institutional location of the node is central to its success. Early discussions on an appropriate site clarifies the expectations placed on the node by the various actors involved.

- The respective merits and advantages of regional and (European) UETPs need to be recognized, so that each type of partnership can optimise its contribution to the European network.

COMETT student mobility has been most successful in achieving its objectives, particularly in involving industry and SMEs.

- Its 'good practice network' might be opened to assisting other initiatives which have not achieved such success with industrial placements.
- Given the current COMETT mastery of the mechanics of student mobility, additional university-industry development requirements might be placed on the mobility activity.
- Personnel placements have worked particularly well in some countries, and that positive experience should be fed into new exchange arrangements.

COMETT II has developed many thousands of training courses and an impressive quantity of materials has been made available. The quality improvement in this training has been consistently remarked upon.

- It is important that many more organisations and individuals have access to these resources; marketing and dissemination of materials should receive a much higher profile in the future.
- Programmes should reflect how they can contribute towards the development of the "Learning Organisation", notably by making room for on-the-job and on-line training, project based training, vendor engineering of training suppliers, etc.
- More professional interfaces for university based trainers interacting with industry should be developed. This might involve universities in joint ventures with professional training consultants or closer liaison with technology transfer units.

6.4 Project implementation

COMETT II has provided some valuable lessons in terms of project management. These include notably:

- appropriate needs analysis before the full launch of the project is essential
- adequate project preparation and planning is necessary; in particular a full and common understanding of the project objectives should be pursued
- the intrinsic risks of transnational education and training projects should be recognized; scenarios should exist to cope with the damage caused by the turn-over of project staff or the loss of a partner
- better awareness of the real, and often underestimated, costs of the "European overhead" is important.

Awareness of these and related issues will help improve the quality of collaborative training projects and their outputs.

Annex 1. Statistical overview

This is only a selection out of the many statistical data available. More details can be found in the different reports which have been produced (cf. Annex 3). The synoptic overview of COMETT by country (Annex 2) also includes a short table per country.

Table 1. Distribution of projects submitted by Strand and Year

Strand	1990	1991	1992	1993	1994	Total
A	366	-	114	-	-	480
Ba	351	148	194	181	176	1050
Bb	99	-	-	-	-	99
Bc	138	55	89	96	95	473
Ca	328	131	182	194	182	1017
Cb	726	-	293	-	-	1019
Cc	32	-	-	-	-	32
D	342	88	-	146	144	720
Total	2382	422	872	617	597	4890

Notes[1]

(1) Meaning of the Strands: see 'COMETT Terminology' in the beginning of this report, as well as Chapters 2 through 4. Strand D includes 'preparatory visits' in 1990-1991, some Positive Actions in 1992 and complementary support for UETPs in 1993-1994.

(2) From 1991 onwards, applications under Strands Ba, Bc, Ca could only be submitted by UETPs (accepted under Strand A in 1990 or 1992) - cf. the 'Pool system' described in Chapter 1.
From 1993 onwards, the complementary measures under Strand D were reserved to UETPs accepted in 1990 under Strand A.

(3) The notion 'project' is not identical across projects and years. In particular the pool projects (Strand Ba, Bc, Ca from 1991 onwards) include several sub-projects.

(4) The 32 applications under Strand Cc were re-submissions of Cb-projects which had been shortlisted as potential pilot projects.

[1] These notes also apply to many of the other tables.

Table 2. Distribution of projects accepted by Strand and Year						
Strand	1990	1991	1992	1993	1994	Total
A	158	-	49	-	-	207
Ba	246	148	172	177	175	918
Bb	13	-	-	-	-	13
Bc	66	54	67	86	92	365
Ca	123	130	154	188	179	774
Cb	191	-	113	-	-	304
Cc	30	-	-	-	-	30
D	49	88	-	146	141	424
Total	876	420	555	597	587	3035

Notes

(1) Although most pool project submissions were approved, in general the project was only partially accepted.

(2) The table reflects the status at the moment of decision. Following contract negotiations, some projects eventually did not start; a few projects were also stopped after a some time.

Table 3. Evolution of demand and awards of placements (Ba) and exchanges (Bc)						
Demand	1990	1991	1992	1993	1994	Total
Student placements	16,130	14,558	26,525	31,820	33,744	122,777
Personnel exchanges	420	215	512	427	327	1,901
Awards						
Student placements	3,777	5,272	6,926	7,725	7,940	31,640
Personnel exchanges	95	124	140	228	252	839

Note

The number of students on placement was actually somewhat higher than approved (cf. Chapter 4).

Table 4. Distribution of financial demand by Strand and Year (in 1000 ECU)						
Strand	1990	1991	1992	1993	1994	Total
A	82,413	-	18,973	-	-	101,386
Ba	103,429	51,413	101,765	128,538	128,365	513,510
Bb	8,093	-	-	-	-	8,093
Bc	8,669	3,361	9,849	7,705	5,855	35,439
Ca	19,204	17,496	24,400	35,840	24,919	121,859
Cb	286,638	-	89,163	-	-	375,801
Cc	17,607	-	-	-	-	17,607
D	2,976	1,570	-	6,279	3,715	14,540
Total	529,029	73,840	244,150	178,362	162,854	1,188,235

Table 5. Distribution of allocations by Strand and Year (in 1000 ECU)						
Strand	1990	1991	1992	1993	1994	Total
A	21,605	-	7,607	-	-	29,212
Ba	10,148	14,279	17,708	18,491	18,954	79,580
Bb	99	-	-	-	-	99
Bc	613	907	946	1,680	1,762	5,908
Ca	2,123	6,212	7,119	5,161	6,282	26,897
Cb	35,591	-	23,288	-	-	58,879
Cc	14,770	-	-	-	-	14,770
D	95	248	-	3,461	2,722	6,526
Total	85,044	21,646	56,668	28,793	29,720	221,871

Notes

(1) These amounts are based on the situation at contract stage.

(2) For multi-annual projects (A, Cb, Cc) the amounts indicated refer to the year in which the project is accepted; in reality, the allocations were distributed over the different years of the project.

(3) Due to rounding errors, there are some one-digit differences with the totals of Tables 7 and 8.

Table 6. Distribution of projects accepted by Country and Year						
Country	1990	1991	1992	1993	1994	Total
B	49	17	19	16	15	116
D	88	43	77	76	71	355
DK	24	11	12	15	14	76
E	61	30	47	55	57	250
F	166	63	80	91	88	488
GR	63	25	29	34	31	182
I	76	37	48	63	61	285
IRL	47	16	18	18	17	116
L	4	-	1	-	3	8
NL	49	21	23	24	22	139
P	38	25	30	34	34	161
UK	128	61	71	78	84	422
Total EC	*793*	*349*	*455*	*504*	*497*	*2,598*
A	23	16	17	18	19	93
CH	5	-	23	13	12	53
FL	-	-	2	2	1	5
IS	2	3	4	4	4	17
N	6	-	20	16	16	58
S	28	14	17	20	20	99
SF	20	19	17	20	20	96
Total EFTA	*84*	*52*	*100*	*93*	*92*	*421*
Total	877	401	555	597	589	3,019

Notes

(1) The abbreviation 'EC' (European Community) has been used, as this was the official denomination during most of COMETT II.

(2) The distinction between EC and EFTA has been kept as it was at the beginning of the programme (1990).

(3) The countries refer to the site of the main contractor at the contract stage. It is recalled, however, that COMETT projects are transnational in nature and that a typical COMETT project involves different partners from 3 to 6 countries.

Table 7. Distribution of allocations by Country and Year (in 1000 ECU)

Country	1990	1991	1992	1993	1994	Total
B	4,374	898	1,895	926	1,085	9,178
D	10,228	2,498	7,421	3,851	4,035	28,032
DK	2,843	742	1,341	718	761	6,405
E	6,188	1,932	4,325	2,379	2,497	17,321
F	13,743	3,250	7,681	4,383	4,389	33,445
GR	5,478	1,271	3,031	1,861	1,862	13,503
I	8,414	1,874	4,746	2,671	2,717	20,422
IRL	3,633	1,136	2,280	1,016	1,213	9,278
L	1,035	-	150	-	170	1,355
NL	5,490	1,058	2,765	1,435	1,487	12,235
P	3,344	962	2,063	1,196	1,515	9,081
UK	12,826	3,748	7,979	4,294	4,162	33,009
Total EC	*77,596*	*19,369*	*45,677*	*24,730*	*25,893*	*193,265*
A	1,196	719	2,069	828	896	5,708
CH	572	-	2,599	858	682	4,711
FL	-	-	350	72	10	432
IS	179	42	310	108	93	732
N	1,107		1,680	542	631	3,960
S	2,558	861	2,354	817	704	7,295
SF	1,836	656	1,629	837	811	5,768
Total EFTA	*7,448*	*2,278*	*10,991*	*4,062*	*3,827*	*28,606*
Total	85,044	21,647	56,668	28,792	29,720	221,871

Table 8. Distribution of allocations by Country and Strand (in 1000 ECU)						
Strand / Country	A	Ba/Bb/ Bc	Ca	Cb/Cc	D	Total
B	1,035	2,817	1,410	3,745	172	9,178
D	3,937	11,504	3,089	8,719	784	28,032
DK	675	2,315	595	2,645	174	6,405
E	2,505	7,510	2,088	4,633	584	17,321
F	4,265	13,083	3,995	10,968	1,134	33,445
GR	1,890	5,621	1,603	4,089	300	13,503
I	2,753	7,496	2,575	7,015	583	20,422
IRL	690	3,605	1,262	3,518	204	9,279
L	120	105	45	1,065	20	1,355
NL	1,455	3,804	1,685	4,963	328	12,235
P	1,350	3,687	1,195	2,470	379	9,081
UK	3,860	14,036	3,347	10,679	1,087	33,009
Total EC	*24,535*	*75,584*	*22,889*	*64,509*	*5,748*	*193,265*
A	735	2,624	826	1,336	187	5,708
CH	1,130	1,321	867	1,390	2	4,711
FL	150	52	30	200	-	432
IS	159	210	70	240	53	732
N	930	1,187	477	1,318	47	3,959
S	888	2,357	998	2,811	241	7,295
SF	685	2,251	740	1,845	248	5,768
Total EFTA	*4,677*	*10,003*	*4,008*	*9,140*	*778*	*28,606*
Total	29,212	85,587	26,897	73,649	6,527	221,871

Annex 2. Synoptic overview by country

The following pages contain a brief overview of COMETT for each of the participating countries. More details can be found in the National Evaluations of COMETT, as well as the 'National profiles' and the 'Regional profiles' which have been prepared as part of the monitoring activity. The country order is the same as in the statistics of Annex 1.

BELGIUM

Population 10.02m., Population Density: 328.4, GDP/head: 16.2 ppp.

SUMMARY TABLE BELGIUM (1990-94)[1]		
	Number	Budget
UETPs: Regional	3	
Sectoral	4	1,035,000
Students	1,030	2,530,580
Fellows	45	286,340
Courses	137	1,409,500
Joint Training Projects	12	2,765,000
Pilot Projects	2	980,000
Complementary Measures	12	171,558
TOTAL		9,177,978

1. Background: Legislation, Programmes & Activities

- There is no specific legislation on higher education-industry cooperation. Constitutional decentralisation gives regions, rather than central government, the main role in dealing with such matters. It also gives rise to substantial inequalities between effective legislation and opportunity across regions.
- Programmes and activities include: (1) those previously run by the Institute for the encouragement of Scientific Research in Industry and Agriculture, one of which provides 50% support for applied research in industry which often includes academic participation, (2) the work of the Industry-University Foundation, (3) continuing training provided by the Institutes of Engineers, (4) the research work of the 11 Joint Research Centres, partly funded by industry and closely linked to universities, (5) the Nation Council for Scientific Policy which includes industrial and university members, (6) the technology promotion programmes of individual regions.
- University teaching staff can engage in external consultancy for up to 20% of their time. No such provision exists at third level outside the universities. Flemish legislation provides for funding of continuing training as a basic activity. Each university has its own, usually internal, industrial interface

[1] The rows in this table (and in the similar tables for the other countries) refer to the following Strands:

UETPs: Strand A; *Joint training projects*: Strand Cb (includes training courses and materials);
Students: Strand Ba+Bb; *Pilot Projects*: Strand Cc (includes training courses and materials);
Fellows: Strand Bc; *Complementary Measures*: Strand D
Courses: Courses supported under Strand Ca;

which has been developing to suit particular needs. Planned industrial placement is not common in university courses, but of growing importance in non-university higher education.

- The Industrial Associations are the centre of activity for vocationally based training courses. But, outside engineering, there is little focus on higher education. There is some industrial representation in boards of higher education institutions. Enterprise personnel on the teaching staff of higher education institutions is common, particularly outside universities. Larger companies have university liaison staff, mainly in research. Industry provides about 10% of the research budget of universities.

2. National Development of COMETT

- The high level of participation seen in COMETT I has fallen back, from 10% to 3% in the period 1993/4. Industrial participation has also slowed down. Until recently, francophone universities were still not taking fully part in the Programme, with only one UETP in the region, confined to the Liegeoise region, and to student placement activities. The new UETP "Wallonie-Bruxelles" promises greater integration of partners into COMETT activities. Sectoral UETPs are well represented, particularly in the Flemish region. UETPs receive little financial support from the political authorities. A good level of transnationality has been seen in projects.

3. Networking

- With the regional francophone UETP network, both enterprises and students surveyed were some what negative on the added value. Only 9% of enterprises were positive on TNA activities while 35% were negative. Some 24% thought of the UETP as a help in conveying training needs to trainers. By and large, industry sees the role of the UETP as an adviser in European projects and link to universities.
- The transnational element is the major contribution of UETPs: 30% of respondents felt more aware of the benefit of international partnerships, 37% were stimulated to participate in European projects. 57% of industrialists and 78% of students felt COMETT improved the European dimension in the enterprises' culture.
- Compared to regional UETPs, sectoral ones are seen as better equipped to undertake TNA and work on mobility and recruitment.
- The UETPs have worked with and created synergy with most institutions of economic and university life assisting in collaboration while also working on regional and national projects.
- The main strengths of the UETPs are the provision of regular information, mobility activities, advice on European projects, responsiveness to requests and their role as a university-enterprise interface. The weaknesses are that they are not well enough known with poor marketing resources, poor abilities in TNA and little actual knowledge of the technologies.

4. Mobility

- The concept of mobility is weakly developed in Belgium as is the role of placement of students in enterprises as part of their course. However, the idea is gaining ground. From a position of welcoming many more students to Belgium, at the beginning of COMETT, the flows are now in balance due to the growing interest of Belgian students in going abroad. Most students go to Germany and the UK.
- There was nearly 100% positive response from industry, universities and students for mobility activities. Smaller universities, in particular, used placement as a first step in internationalisation and making themselves known in Europe. They were helped to bring their teaching up to date and offer more attractive possibilities to potential students.
- Industry moved from looking on placements as "a favour" to being an equal contract with both sides gaining. Enterprises now propose regular placements. Conditions of placements, work programmes and duration have improved.
- Despite relatively good participation, staff mobility is still seen as under exploited. Placement is mostly from Belgian applied science departments to firms abroad.

5. Training

- For training course development, 45% of survey responses were positive. The added value of the international dimension was very important. There was an innovative reshaping of projects including use of multi media and training of trainers.

- Some 68% of respondents indicated that quality and level of training improved and 57% that a European dimension had been added to the enterprises culture. 49% pointed to access to a much greater richness of information for course development, 46% to better access to technologies and 40% to improvements in work quality. COMETT improved not only quality but also variety of training offered.

6. Overall Impact

- Only 15% of enterprises felt that COMETT had changed their comportment towards universities. However, 40% had used the work as part of a strategy of internationalisation. Firms thought COMETT should be much more widely promoted; it was too little known.
- 96% of those on placement and 80% of those undertaking training were satisfied. The internationalising impact on universities (particularly small and specialised ones) was important.
- Overall, 54% of enterprises thought COMETT had a positive impact on their internationalisation, 35% on their technology, and 28% on quality of work. Of enterprises, 32% thought COMETT had a regional benefit and 18% a national benefit.
- In total, COMETT made participants aware of the possibilities in Europe and the potential of international collaboration.

GERMANY

Population 80.27m., Population Density: 224.9, GDP/head: 18.3 ppp.

SUMMARY TABLE GERMANY (1990-94)		
	Number	Budget
UETPs: Regional	19	
Sectoral	8	3,937,000
Students	4447	11,096,640
Fellows	48	407,250
Courses	357	3,089,000
Joint Training Projects	33	6,426,500
Pilot Projects	5	2,292,185
Complementary Measures	44	783,644
TOTAL		28,032,219

1. Background: Legislation, Programmes & Activities

- The 3rd Framework Law on Higher Education confirms the structure of the different elements of higher education. Much of higher education and associated R&D is financed at a State level.
- The BMFT promotes and supports cooperative activities between higher education and industry, including funding technology transfer training and the development of higher education-industry cooperation consortia. The employment of R&D personnel by SMEs is also supported. The States also have their own particular programmes.
- Over the last decade, higher education institutions have become increasingly involved in technology transfer, often with central offices and full time staff providing advisory and support services to faculty and firms. Fachhochschulen have developed particularly good regional and industrial activities. There is increased industrial placement taking place as part of study programmes. Widespread individual university/industry contacts. The Fraunhofer Institutes have helped bridge the gap between higher

education and industry. Regional institutes have been set up at Länder level with responsibilities for technology transfer activities. Trade unions often have technology transfer offices on their premises.

- Chambers of Commerce and Industry have cooperation agreements with higher education institutions, particularly the Fachhochschulen, covering areas such as research, technology and continuing education and training. There are many industry initiated foundations and research associations which support and fund university/industry activities. Industry provides 2 to 3% of externally funded higher education research.

2. National Development of COMETT

- Germany was a very hesitant partner in COMETT I resulting in a poor geographic and technical coverage from only 2 regional, 2 mixed and 7 sectoral UETPs. The 1992 Call for Applications saw a transformation in the German situation with 27 UETPs giving complete regional coverage and all Länder establishing direct linkage with COMETT. The German National Profile notes that it has been the sectoral UETPs which have been responsible for international knowledge and technology transfer and more active in continuing training.

3. Networking

- Regional UETPs have ensured a continuous cooperation between universities, associations and enterprises. This enables industries of the region to have access to other European education, training and S&T programmes. They also promote a more committed engagement of higher education institutions in continuing training and develop third level and continuing education courses and short courses.
- Their strengths include: (1) participation by partners from all parts of Germany, (2) sponsorship, mediation and care of students, (3) they enable medium-sized enterprises access to European cooperation, (4) they promote growing cooperation by European partners - regular information bulletins, participation at trade fairs, etc. (5) they carry out Ca-courses (short courses) and coordinate larger transnational projects.
- Their weaknesses include (1) only one of 27 UETPs has a legally independent status, (2) more SME involvement is required as is training linking with R&D for SMEs.

4. Mobility

- Under COMETT II, studentship numbers have reached the level of other major EU Members and the balance between incoming and outgoing students has been attained. In all ways German participation is judged to have been more successful. However, in the exchange of personnel, there has been little interest, particularly from industry.
- It provides young students with positive impressions from their European practical training experience which acts as multiplier for cooperation between university and enterprise. Those students will later facilitate the introduction of innovative ideas, especially in SMEs. While the realisation of practical training in industry between higher education institutions and industry is favourable, the personnel transfer (Bc) is still underdeveloped. The willingness on the part of the students to complete their practical training abroad has considerably increased.
- Enterprises have had positive experiences with trainees from European universities. This will ensure the willingness of industry to offer practical training places in future. However, the new Länder can only offer a few practical training places.
- The personnel transfer between universities and industry is made difficult, not only because of a number of legal framework conditions, but also the design of the content of the practical training. The personnel transfer is financially unattractive to practitioners in industry, and on account of the need for longer releases of employees, it is almost negligible.

5. Training

- Cooperation of university with industry in the area of education and further-training is still underdeveloped. The increased share of German facilities in the coordination of European courses and pilot projects shows an increasing acceptance of the COMETT approach. COMETT projects complement meaningfully existing plans in specific areas like environmental protection etc.

- COMETT initiatives in Germany broaden the available offer of training, especially in regard to themes that concern the realisation of the EU-home market. German participation in short training courses has remained steady during COMETT II. Despite good industrial involvement, courses have relied on traditional teaching methods. There has been good complementarity with other EC programmes. Joint training programmes have declined. Germany hosted four pilot projects.
- Positive Actions were used to integrate the new Länder through assistance in the preparation of tenders, financial support for student placement, along with support for study visits, conferences, studies on higher education / industry cooperation, etc.

6. Overall Impact

- A marked revival of the debate between university and industry has taken place. COMETT played some part. The central themes and activities were: (1) future requirements on higher education institutions in view of European integration, (2) concepts of cooperation between higher education institutions and enterprise for mutual advantage, (3) new teaching concepts in the light of rising numbers of students, (4) restructuring of the academic system with regard to the reduction of study periods, (5) stronger orientation of third level education towards the requirements of praxis in the professions and industry, (6) improvement in the recognition of study periods abroad and the qualifications received abroad, (7) increased significance of higher education institutions in continuing education, (8) in technology transfer centres COMETT stimulated transnational cooperation in Europe, (9) through cooperation of UETPs and centres of technology transfer, it is possible to link research and development with continuing education especially benefiting SMEs.

DENMARK

Population 5.16 m., Population Density: 119.8, GDP/head: 16.6 ppp.

SUMMARY TABLE DENMARK (1990-94)		
	Number	Budget
UETPs: Regional	3	
Sectoral	2	675,000
Students	909	2,142,310
Fellows	24	172,970
Courses	54	595,000
Joint Training Projects	9	1,647,000
Pilot Projects	2	998,330
Complementary Measures	12	173,972
TOTAL		6,404,582

1. Background: Legislation, Programmes & Activities

- The concentration of higher education in the Copenhagen region ended after WWII with the establishment of new universities at Aarhus, Odense, Aalborg and Roskilde. Engineering studies and research spread from the Danish Technical School to Aalborg. The Danish Technological Institute also carries out much applied research.
- The 1990 Law on the Promotion of Industry established the legal framework for increasing cooperation between private industry and public research institutions.
- Independent institutions - Technology Service Networks - offer research intensive services to industry. The Industrial Researcher Scheme offers economic support for about 50 PhD students per year to those

working on higher education-industry cooperation projects. The Danish Research Academy also finances students engaged on PhDs in industry. Various R&D Programmes promote higher education - industry cooperation in specific areas.

- Most universities have a strong Industrial Liaison function. There are four Science Parks.

2. National Development of COMETT

- Interest in COMETT activities was high in 1990 but has fallen off since 1991 and is now only moderate. The COMETT Information Office has worked well with higher education institutions and enterprises. The Aalborg international conference on higher education-industry cooperation in June 1993 was an important success.

3. Networking

- Five UETPs were active during COMETT II (three regional and two sectoral - training technologies and transport) compared to two in COMETT I. The success of the UETPs seemed to be dependent of the objectives of the host organisation; i.e. transfer of R&D to industry versus research and education of students.
  - Those working with local industry have improved the acceptance of UETP members' graduates, created interest for university researchers working in industry, implemented training programmes and opened channels for firms to access university knowledge as well as developing wider higher education - industry cooperation.
  - UETPs that focused only on student placement and without a stable structure of industrial involvement have proved much weaker but have been beneficial to the student and firm.
- TNA[2] has not been undertaken by regional UETPs. Firms either do not feel UETP staff appropriate or feel it should be an in-company activity. One of the sectoral UETPs has carried out extensive TNA as a base for activities.
- The strengths of the UETPs were: (1) membership of the European inter-UETP network: well linked to North Europe, weak to the South.
- The weaknesses include: (1) the lack of economical viability, (2) most UETPs have only reached industry indirectly with only occasional contacts, (3) insecurity has meant staff turnover increasing, weakening the networks, (4) industrial commitment is low and often on an ad hoc basis.

4. Mobility

88% of studentships were to send students, only 8% to receive students. Only 24 personnel exchanges took place with 87% to send staff. Student exchanges have largely resulted in companies becoming more open, although better quality control on students may be needed. Employee exchange, when it has occurred, has been very successful.

5. Training

- Sixteen short courses (Ca) were mounted and 9 long projects (Cb). In the latter group industrial and union participation was high and open and distance learning methods widely used. Two Pilot projects (Cc) were undertaken; one sought to develop the use of ICT in open and distance learning, the other developed training materials for the transport sector.
- Training projects developed by organisations with a specific training need have worked well and have strengthened relationships with partners. It has not been possible to market the courses outside the group of partners. For educational institutions, once launched, the demand for training was smaller than expected. Consultancy companies' projects within their own areas of interest have been most successful due to (a) the projects are bigger with greater European collaboration, (b) the managers have a competence and reputation in training, (c) they work more closely with the end-user.
- Training demand is changing; companies are dismantling training departments and moving from general training to more job specific and company oriented training with a much more result oriented

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[2] TNA= Training Needs Analysis.

approach. Training is becoming tailor made, in-company. One UETP has moved to developing training after R&D contact giving closer cooperation with the company.

- COMETT quality is high but volume of activities is small. However, at a regional level, authorities are increasingly supporting continuing education and training for economic development. COMETT has played some role in this shift.

6. Overall Impact

- The Danish National Report notes that "A real breakthrough with the programme has never been able to be made. .... The student exchange programme has been the most successful. The need for coordination situated more at the national level also made itself felt." The Final National Evaluation similarly notes that specific national commitment and support has been "very modest". This has impacted on COMETT activities. A Ministry should take ownership, and clear lines of responsibility be developed, as well as an information centre established.
- COMETT has been of benefit particularly in the universities and the technical colleges. The main focus has been the need for upgrading of qualifications in industry and the importance of high level technological training. However, COMETT is only one among several government tools.
- In Denmark, COMETT has both supported and has been supported by the "Act on Continuing Education" and the "Industry Researcher Programme" so that some synergy has been achieved.

SPAIN

Population 39.06 m., Population Density: 77.4, GDP/head: 11.96 ppp.

SUMMARY TABLE SPAIN (1990-94)		
	Number	Budget
UETPs: Regional	12	
Sectoral	6	2,505,000
Students	2,595	7,025,867
Fellows	82	484,470
Courses	244	2,088,200
Joint Training Projects	21	3,633,050
Pilot Projects	2	1,000,000
Complementary Measures	33	584,018
TOTAL		17,320,605

1. Background: Legislation, Programmes & Activities

- The Ley de Reforma Universitaria (LRU), 1983, provided the framework for the full collaboration of universities with the private sector in research projects as well as in training - but within the specific legislation governing each particular university.
- Further legislation in 1984 and 1986 gave official sanction to teaching personnel participation in university-enterprise joint activities.
- In 1986, la Ley de Fomento y Coordinación General dc la Investigación Científica y Técnica opened the way to concerted public and private actions at a national and international level.
- This was put into action under the 1988 Plan National de Investigación Científica y Desarollo Tecnológico which:

- created 74 technology transfer units mostly based in universities and public research bodies: the OTRI
- set up the PRTRI Programme to encourage the rapid industrial application of technical progress
- launched the Proyectos Concertados Programme to promote R&D activities in industry
- supported actions to encourage the exchange of research personnel between research centres and industry

• Doctoral theses are increasingly undertaken on the basis of work done in companies' R&D Departments. Equally, undergraduate/diploma courses increasingly incorporate a placement period in industry.

2. National Development of COMETT

• The interest in transnational placements has grown rapidly. Interest in training courses and multimedia activities has been somewhat less. In 1990, projects submitted were less than in COMETT I but increased in 1991 and 1992 due to the work of the UETPs. The acceptance and the quality of project is seen as having increased over the lifetime of COMETT II. Spanish participation in non-Spanish led projects has also increased.

• Most Spanish universities have taken part in COMETT II along with some 800 enterprises; the latter have been more active than in COMETT I. Unions have also become more active. Geographically, the centre-north has been much stronger than the centre-south region; the regional development organisations have been a particularly strong backbone in the north. The Positive Actions have sought to develop activities in the centre-south.

3. Networking

There are 12 regional, 5 sectoral and one mixed UETPs in Spain concentrated for the most part in the north and east and reflect the level of regional industrialisation. Eight UETPs are established as not-for-profit "Foundations".

• The regional UETPs acted as information and management structures for EC programmes, especially in human resources, education and training as well as organisers of international training periods for university students. With sectoral UETPs they have acted as providers of an international vision on technological training, training periods in companies, new and dynamic training material, etc.

• UETPs have helped industry define their training needs by launching TNAs and defining the methodological approach, assisting in defining training plans and choosing between training options, drawing together the various company studies and later developing closely aligned training provision. These activities have been particularly important in the context of the SME structure of Spanish industry.

• UETPs have been important in establishing transnational contacts for its associates, especially the SMEs. Firms have also been given access to European level training products and to a wider international vision through hosting foreign students.

• Sectoral UETPs have provided: a transnational vision to participants, European Working Groups, European - level training programmes and third level courses, an analysis of sectoral technology and training supply and demand as well as an international comparative study of the situation in Spain, a communication network and a data base of training and technology, and a means of advancing the technological level of firms in the UETP.

• The strengths of the UETPs are Quality of services, experience in knowledge and management of European training projects, promotion of national and international contacts, European image of the UETPs, knowledge of regional and sectoral firms' needs, relations with regional governments, and diversification of services.

• The weaknesses include insufficient personnel, reduced financial resources, lack of uniformity in legal structure, differences in academic regulations concerning training periods in firms (only some recognise these periods), non-innovative industry leading to weak demand for services.

4. Mobility

• The student mobility programmes have been very important. They have made COMETT widely known and have developed a new higher education-industry formula for students as well as improving their professional future. Such students will be an important source of innovation in Spanish firms.

- They have developed new modes of technology transfer in knowledge, techniques and models and brought higher education / industry relations into a labour market context through a concern for professional placement as well as providing new forms of human resource updating and recycling.
- They have helped in giving a comparative aspect to European higher education - industry relations and improved language competencies, thus facilitating other forms of transnational higher education-industry cooperation.
- There has, however, been little real change even if some universities have adopted co-validation and acceptance of training periods. Generally, universities have not established mechanisms for academic recognition of training periods. Equally, firms need a clear legal base for cooperating in such academically recognised training periods.

5. Training

- The increase in the quantity of courses has been limited. However, in COMETT II the course quality was significantly better. This was based on better definition of demand through needs analysis.
- COMETT has also helped cover a high level specialised need in technology training. And in some cases it has helped promote training actions at a regional level as well as levering matching finance for further training actions.
- The COMETT framework for training actions (transnationality, evaluation, quality, etc.) have become incorporated into other actions, sometimes into regional actions.

6. Overall Impact

- COMETT has increased debate and action on issues such as transnational development, skill needs analysis and the use of new training technologies. In certain regions, it has initiated the first formal university / industry cooperation. In others, it has brought an international aspect to the debate.
- COMETT has had an impact on industry-university relations in the following areas: (1) linking TNA to developing training for enterprises, (2) improving enterprises' decisions through better information on advanced training, (3) assisting companies, particularly SMEs, in their first contact with universities, (4) understanding the impact of training actions on companies, (5) the academic value of training periods in industry and the use of courses in technology transfer to firms. At a National level COMETT has helped "Europeanise" these activities in university/industry cooperation.

FRANCE

Population 57.21 m., Population Density: 105.2, GDP/head: 17.25 ppp.

SUMMARY TABLE FRANCE (1990-94)		
	Number	Budget
UETPs: Regional	21	
Sectoral	10	4,265,000
Students	5,831	12,624,370
Fellows	71	459,430
Courses	469	3,995,000
Joint Training Projects	49	9,468,000
Pilot Projects	3	1,500,000
Complementary Measures	65	1,133,614
TOTAL		33,445,414

1. Background: Legislation, Programmes & Activities

- The Loi Edgar Faure (1969) and the Loi Savary (1984) provided the framework for university-enterprise relations. Universities can create public or private organisations with industrial partners. University staff can be seconded to industry. Staff can work for third parties. The Groupements d'Interêt Public (GIPs) are particularly aimed at joint research programmes.
- Since 1967, ANVAR has been active in helping universities to set up companies. Various high-level committees operate to encourage and accelerate university-industry cooperation.
- Several universities, particularly Grenoble and Compiègne, have set up partnerships or sponsorship for the development of vocational training courses. There is strong enterprise presence on pedagogical committees. Industrial placement is already obligatory on the vast majority of technical, engineering and business studies courses. The laws of 1971 and of October 1985 have promoted a large volume of continuing education which universities help to service.
- Large firms have developed a "Campus Manager" to deal with universities, particularly placements.

2. National Development of COMETT

- The support of the national COMETT Committee and the COMETT Information Centre has been central in the full development of COMETT in France. The training legislation, now in place for over 20 years, has also been crucial. The strong mobilisation of higher education institutions and enterprises often through the UETPs has also been important.
- French participation in COMETT fell (28% to 21%) in the 1990 Call for Proposals mostly due to other countries catching up. By 1993 and 1994, France was, however, making the greatest number of proposals among participating States.

3. Networking

- Of the 31 French UETPs following the 1990 and 1992 Calls, 21 are regional and 10 are sectoral. Of the 21 regional UETPs, 7 are based in a Conseil Régional and 9 are in Chambres de Commerce et de l'Industrie. By and large, the UETP network functions well and should survive well into the future. The active support of the Information Centre and the national authorities has played an important role in this success.
- The main strengths of the UETPs are that have acted as a coordination and reference point for programme users. They have turned new ideas into actual European projects: the network of European partners has been most important here.
- The main weaknesses lie in their frail financial structures which are due to their small size and the absence of pluri-annual budgeting. They have had limited human resources. Their visibility has been low.

4. Mobility

- Universities have had many more problems than engineering schools in participating in student placement activities. "Bac +2" institutions have had very limited participation.
- The usefulness and simplicity of student placements have been of major benefit to enterprises, particularly SMEs. They have created a European perspective, added new competencies to the enterprise and raised awareness of human resource issues, as well as providing expertise for specific projects such as technology transfer. The placement has assisted the student in obtaining employment and improves language ability.
- The placements become sources of new commercial relations and the bases of future partnerships, particularly for R&D programmes. However, the delays in selection procedures are too long.
- The COMETT policies and practices have contributed to the normalisation and systematisation of placements abroad, particularly by the specification of quality parameters: length of stay, rights of both parties, etc.
- The staff placements have not been successful and should be rethought.

5. Training

- There have been certain difficulties due to over ambition. Reuse of existing seminar material has been weak. Commercialisation and diffusion of products has been weak.
- However, COMETT has provided a transnational dimension and value added to the work and has integrated the human factor into technological training. New links have been developed between training and R&D.
- COMETT has opened a European market for technical training as an integral part of improving technology transfer. It has also helped create awareness of regional poles of competence. However, the time to launch training initiatives has been too long and financial support too small.

6. Overall Impact

- The overall impact of COMETT has been far greater than the simple amount in ECUs. There has been strong regional synergy with local bodies subscribing financially to projects and creating their own programmes. It has been a success at both a national and European level.
- At the start, national policy and programmes were closely allied to COMETT. However, with economic and political change the two have now become more distant: COMETT is a bit "dated".

GREECE

Population: 10.25 m., Population Density: 77.7, GDP/head: 7.4 ppp

SUMMARY TABLE GREECE (1990-94)		
	Number	Budget
UETPs: Regional	7	
Sectoral	6	1,890,000
Students	1,957	5,150,903
Fellows	77	469,690
Courses	152	1,603,000
Joint Training Projects	17	3,088,850
Pilot Projects	2	1,000,000
Complementary Measures	18	300,414
TOTAL		13,502,857

1. Background: Legislation, Programmes & Activities

- There is no general legislative framework to facilitate industrial cooperation except in the specific area of research projects. A new environment for university-industry cooperation is being created.
- Greece's 17 universities provide formal structured curricula administered on an intra-muros policy, which does not easily recognise the needs of industry. Over the last 25 years a system of Polytechnics have been built up with a practical orientation. A National vocational training structure has been developed in these Polytechnics.
- Industry tends to view the academic world with some suspicion. Its volatile nature makes for difficulties in long-term cooperation with industry.

2. National Development of COMETT

- Difficulties among partners made for a slow take off of the COMETT Programme. National and local authorities were supportive, industry and professional associations were open but did not participate strongly. Several universities were hostile. However, as time went on participation improved, with firms taking the lead.
- No similar programmes existed in Greece and there was little tradition of university-enterprise cooperation.
- The transnationality of projects proved a difficulty at the beginning but improved steadily during the Programme.
- Of the 900 Greek organisations taking part in COMETT II, 600 were firms and 200 professional associations, Chambers, etc.

3. Networking

- Of the 13 Greek UETPs, 11 are active and developing well, working with other EU Programmes and with along national policy lines. Regional coverage is seen as good. They do no, however, receive national or regional co-funding.
- The development of transnational collaboration, through UETPs and other COMETT projects is considered to be the most positive experience for Greek organisations. Sectoral UETPs are based on the active participation of industry, especially in the sectors of food, chemicals, textile and metal products.
- The main strengths of the UETPs are: (1) the extensive geographic coverage (with the exception of the Aegean Islands), (2) encouraging participation of industry, (3) development of a new collaboration modes between university and industry, and (4) their contribution to transnational collaboration and exchanges.
- The main weaknesses are: (1) difficulties in achieving financial self-sufficiency, (2) UETP coordinators have acted as training users and very rarely as training suppliers, (3) participating universities are mainly concerned by student placements and rarely participate in the development of training packages.

4. Mobility

- Practical placements abroad is a new concept for Greek students. UETPs, particularly the sectoral UETPs, have been important in finding these places. Industrial attitudes towards placements has also improved.
- Generally, universities have not recognised industrial placements. The Polytechnics, however, require such placements.
- The "Pool System" has worked well and helped UETPs develop strong relations with the Polytechnics. Management systems for placements have improved over the period of COMETT II. Particularly good relations have been developed with the New Länder.
- The personnel placements have not worked well.

5. Training

- Most short courses have taken place in either Athens, Thessalonica, or Patras.
- COMETT has suffered from competition from a preference of people to organise courses under the better financial conditions of the ESF, which not require a transnationality element.
- The joint training and the pilot projects have encouraged the use of new training technologies. The quality has been satisfactory. However, co-financement has been a problem, while marketing and diffusion have been weak. Most projects have been run by enterprises due to restrictions on public organisations.

6. Overall Impact

- Participation in training activities, within the framework of COMETT, has been remarkable; this participation while limited during the first years and concentrated around public services, bank and local administration, has now become impressive.

- The COMETT programme is considered as one of the most successful programmes.
- Collaboration between higher education institutions and enterprises has been strengthened considerably within a national and international context. COMETT has given rise to communication mechanisms among universities and industry.
- COMETT has contributed to the change of mentality towards European programmes and created an infrastructure for the transitional collaboration and the development of training initiatives.

ITALY

Population 56.76m., Population Density: 188.4, GDP/head: 15.9

SUMMARY TABLE ITALY (1990-94)		
	Number	Budget
UETPs: Regional	13	
Sectoral	6	2,753,000
Students	2,867	7,024,750
Fellows	83	471,800
Courses	268	2,574,500
Joint Training Projects	34	6,515,000
Pilot Projects	1	500,000
Complementary Measures	35	582,818
TOTAL		20,421,868

1. Background: Legislation, Programmes & Activities

- Law 382 (1980) regulates the presence of private companies in university R&D and external remuneration for university staff. Law 705 (1985) provided the framework for universities in consortia and research companies. Law 67 of 1988 established a framework according to which 10% of R&D budgets to be spent on training. Recent developments of the same law encourage transnational placement in industry and centres of excellence as a vehicle for training. Law 391 of 1990 established the means by which Italian Universities could participate in joint initiatives with third parties as well as hold short vocational-based courses. Legislation in 1990 & 91 regulated private sector teaching in universities and encouraged more vocational courses.
- Three Year Development Plans have initially encouraged general university-industry cooperation and followed on to develop areas such as Science Parks.
- Most universities have industry liaison offices, as well as offices for European Programmes and student mobility. Most universities take part in R&D consortia.
- Confindustria has established agreement on university career guidance, innovation of teaching curricula, setting up short diploma courses, R&D, etc. Larger companies have university liaison executives for R&D contracts, student placements, products for the university market, etc. Local Industry Associations have offices which manage relations with local higher education institutions.

2. National Development of COMETT

- The ministry of University and Scientific & Technological Research, to which the COMETT Information Office has been attached has overseen the COMETT Programme and been important in its success.
- COMETT has been responsible for developing a collective and structured transnational approach to education and training which was largely absent in Italy before the launch of the Programme.

3. Networking

- Of the 19 UETPs active in Italy under COMETT II, 13 were regional and 6 were sectoral UETPs. The percentage of UETPs based in universities rose from 17% in COMETT I to 40% under COMETT II as their interest in mobility activities and courses increased.
- The 13 regional UETPs in Italy have made particular progress in the dissemination of a quality approach to training and education across the country - especially Southern Italy. They have also made concrete contributions to the understanding of training needs of enterprise - and particularly local SMEs - in the country. Within the regional UETPs an entrepreneurial approach to training has developed which should ensure the long term effects of the Programme on the quality of training in Italy.
- The COMETT UETPs have systematically analysed the training needs expressed by both industry and universities. The TNA has: (1) permitted specific methodologies to be tested on the spot, (2) helped companies to reflect more systematically on problems, (3) developed debate on the need for regular use of TNA, (4) helped develop short courses.
- The regional UETPs have developed different models of transnationality. Some have emphasised specific technology sectors, others have sought to involve a broad number of organisations from their region in transnational projects, others have concentrated on developing the role of Universities as catalysts of advanced level transnational training.
- The 6 sectoral UETPs have made an important contribution to the development of high quality training initiatives in their specific sectors. They represent leading technology areas in Italy such as automation and involve many of the principal organisations in the country.
- The main strengths are: (1) the high quality of personnel, team work, project creation and management, (2) the transnational dimension, (3) participation by SMEs, (4) the entrepreneurial ability of the UETPs and their general strategy of becoming regional development agencies.
- Their main weaknesses are: (1) difficulties in carrying on discussions with local authorities, (2) limited financial resources, (3) lack of recognition for industrial placements in university curricula, (4) the weak role of universities in the decisions concerning UETP strategy, and (5) the lack of integration of the work carried out by COMETT UETPs with that national and local agencies responsible for vocational training.

4. Mobility

- The principal contribution of the COMETT Programme to Italy has been the creation of the model and procedures for student exchange - previously non-existent in Italy - which have been largely responsible for setting up a practical framework for contact between universities and enterprise.
- The value of mobility has slowly been accepted by universities, enterprise and students. In particular, since COMETT I, Italian industry has come to appreciate the value of stagiaires to the extent that demand for incoming students surpasses that of outgoing students by 25%.
- Youth culture has been slow to accept transnational placement due to poor foreign language knowledge, social pressures (especially in Southern Italy and for women), poor appreciation of the employment benefits of industrial experience, military service, rigidity of the university curriculum and lack of recognition of the placement.

5. Training

- The COMETT Programme in Italy has been influential in developing innovative models of training course development in the national context through the encouragement of universities to work on joint projects and the development of a transnational dimension in project design. It has stimulated the production of highly qualified training resources (including multimedia and distance learning materials), cooperation with DELTA and contributed to a broader awareness and flexible education systems. It has been especially influential in complementing and strengthening national training activities and policy.
- COMETT has acted as a catalyst in Italy to create an institutional system for collaboration between universities and enterprises and has been successful in developing a trade mark with a clear quality standard within the Italian context.
- Cooperation with the Programme frequently leads partners to involvement in other EC initiatives. Italian UETPs have strong links with FORCE and TEMPUS.

6. Overall Impact

- In Italy, COMETT has created, through the UETPs, clear channels for systematic rather than episodic cooperation between local Universities and SMEs, Trades Associations, Chambers of Commerce and Local Government.
- It has been largely responsible for creating a quality-based framework for public debate between university and industry in the country. The success of the Programme has encouraged some universities to review their constitutions in order to recognise industrial placements formally.
- The COMETT Programme has also been an important multiplier as regards acting as a vehicle for the transfer of technology. This consolidates the UETPs as effective developing agencies participating in training, R&D and development programmes for the EC and national authorities.
- Due to COMETT the working relationship between Universities and Industry has concentrated on supplying the established training needs of industry through courses and placements and has given the relationship a transnational dimension.
- The COMETT Programme offers a valid role model to mould future training policy for initial and continuing education. COMETT will encourage national policies to develop a decentralised and flexible education and training system through direct dialogue between university and industry partners as well as active co-operation in joint projects.
- COMETT, through stimulating debate between universities, industry R&D organisations and local and national government, has launched a forum for the discussion of education and training policy with both a national and European dimension.
- The work of the National COMETT Information Centre, located in the MURST, has been crucial in involving all the principal actors in the Programme and ensuring the quality standards of the Programme. The Information Centre has been especially influential in encouraging the acceptance and recognition of student exchange systems in Italy.

IRELAND

Population 3.52 m., Population Density: 50.4, GDP/head: 10.8

SUMMARY TABLE IRELAND (1990-94)		
	Number	Budget
UETPs: Regional	3	
Sectoral	2	690,000
Students	1,205	3,294,330
Fellows	46	310,530
Courses	110	1,262,000
Joint Training Projects	12	2,517,940
Pilot Projects	2	1,000,000
Complementary Measures	18	582,818
TOTAL		9,278,508

1. Background: Legislation, Programmes & Activities

- Regional Technical Colleges & Dublin Institute of Technology Acts (1992) have indicated one of the principal functions as "to provide vocational and technical education and training for economic, technological, scientific, commercial, industrial, social and cultural development of the State with particular reference to the region served by the college". Along with the new Technological Universities (1989), all now have defined legal structures under which commercial activities can be

undertaken. The National University and Trinity College constitutions also provide for such activities. A 1992 Education Green Paper showed increased orientation towards the vocation aspects of education at third level.

- Programmes of higher education-industry cooperation have developed since the late 1970s. Current programmes include: (1) the Industrial Liaison Officer Programme supporting such activities in certain higher education institutions (2) the Higher Education Industry Cooperation Scheme supporting joint research, (3) programmes in Advanced Technology (PATs) developing critical commercial mass in niche technologies, (4) placement programmes transferring skilled graduates into industry, (5) Regional Technical Infrastructure Development supporting the development of particular regionally relevant technologies, etc.
- Most higher education institutions now have explicit policies and support procedures for commercial activities.

2. National Development of COMETT

- Ireland has made steady progress in COMETT II. Two sectoral UETPs have been added, bringing Irish based UETPs up to five and, overall some 111 contracts were issued.
- Difficulties have been in four main areas: (1) dissemination of project outputs to SMEs, (2) extension of the European Dimension within all Strands, (3) development of UETP business plans, (4) marketing training materials and courses on a European scale.

3. Networking

- The sectoral UETP contribution has included developing expertise in European collaborative projects, as well as developing a EU dimension in regional activities. All UETPs have undertaken TNA, organising short courses and involving Irish firms in international training projects. Training needs analysis has been carried out in conjunction with regional and national institutions involved in S&T. Also a National Association of UETPs has been formed.
- UETP activities have led to strong networks being developed around short courses and training projects often integrating and being supported by mobility activities. For small firms, it is often the first link into transnational activities. They are supported by UETPs as they take part in larger projects.
- Only two sectoral UETPs are coordinated from Ireland. Both are active in providing European wide short courses and in developing mobility programmes. They have entered and coordinated other EC programmes (LINGUA, TEMPUS, FORCE, etc.) for their members.
- The strengths of the UETPs are: (1) good reputation, expertise and skills developed, (2) links to other EC Programmes and networking established.
- The weaknesses are: (1) lack of industrial participation due to working in a region with a low geographical density of firms at a low technological level, dominated by SMEs, (2) no government department has taken "ownership" of UETPs, (3) uncertainty and lack of finance.

4. Mobility

- Ireland does not have a strong tradition of placements, outside the new technological universities, although awareness is growing due to COMETT and similar national activities. Competitions for industrial placements is, however, fierce driven by high levels of unemployment and a weak industrial structure. Personnel exchanges have also improved.
- Student placements have: (1) introduced a transnational element to higher education institutions already undertaking industry placements, (2) catalysed the development of placement requirements and mechanisms in higher education institutions not already involved in such activities, (3) increased student language competencies, (4) acted as the base for stronger co-operation and joint projects, (5) provided some firms with a cultural learning experience.
- Some colleges not already undertaking placement activities have modified policies at an informal level to facilitate exchanges. Some Departments have formally modified structures. The staff mobility programme is seen as too ridged with the three month placement period being too long.

5. Training

- COMETT has improved supply of training in Ireland by encouraging higher education institutions to develop and supply technical training, particularly in areas where travel abroad would have been necessary. Access to international expertise has improved quality. Also open, multimedia and distance learning activities have been accelerated by COMETT.
- Innovative collaboration has taken place through: (1) the direct involvement of companies in planning and developing courses, (2) the internationalisation of the development process, (3) the development of flexible networks to undertake such work.
- The Cb projects are seen as particularly successful in Ireland. Two pilot projects (Biotechnology and highway construction / maintenance) have also worked well.

6. Overall Impact

- Overall, COMETT has fostered the debate by adding issues involved in the training dimension and the transnational focus.
- UETPs have added an extra dimension as an infrastructural network. The National COMETT Liaison Committee has been effective in bringing together for the first time all those (government, universities, enterprises, trade unions, etc.) with an interest in higher education, and scientific and technological training. The Programme has also assisted in bringing a EU dimension to national policies in the area and links have been established with activities under The Operational Programme for Industrial Development (1989-93) in areas concerning higher education-industry cooperation.
- Strong supporting relationships have been formed with the Industrial Liaison function in higher education institutions as well as in national S&T priority development areas (e.g. Timber & Forestry, Marine & Aquaculture, Biotechnology).

LUXEMBOURG

Population 0.38 m., Population Density: 188.4, GDP/head: 19.64 ppp.

SUMMARY TABLE LUXEMBOURG (1990-94)		
	Number	Budget
UETPs: Regional	1	
Sectoral	0	120,000
Students	50	105,030
Fellows		
Courses	5	45,000
Joint Training Projects	3	565,000
Pilot Projects	1	500,000
Complementary Measures	1	20,000
TOTAL		1,355,030

1. Background: Legislation, Programmes & Activities

- The full cycle of third level education is absent from Luxembourg with only l' Institut Superieur de Technologie (IST) and le Centre Universitaire du Luxembourg (CUL). Thus, firms tend to look abroad for higher education-industry cooperation.
- Only since the establishment of Centres de Recherche Publics (CRP) in 1987 has new and high technology training become available.

2. National Development of COMETT

- COMETT I has had a concrete, initiating role in developing SITec (a platform for new techniques in intensive courses) within the CRP-Henri Tudor.
- The COMETT Information Office also played an important role.

3. Networking

- Luxembourg has only one regional UETP covering the whole country. After a slow start it now works well. Sectoral TNA studies have been undertaken. Courses have been given an international element.
- The UETP brought added value through alerting firms to the European dimension of R&D as well as training.
- Its main strength is that its partners have included the professional associations which has make for credibility and ease of approach to firms. Other partners have included the ITS, CU and the CRPs. All partners have been active in national and EU R&D and thus permit the UETP to link training and research.

4. Mobility

- Since the economic difficulties of 1992, students have become more interested in training placements and firms more careful about their relevance.
- Often for SMEs, it has been their first contact with a European programme and has encouraged them to move onto R&D programmes.
- Placements in firms have become more systematic.

5. Training

- The development of SITec as a platform for short courses has been the main achievement of COMETT. Under COMETT, the CRC-CU has developed short courses for industry, as has the Chambre des Metiers: the latter particularly for SMEs

6. Overall Impact

- Higher education-industry relations had been developed before COMETT. However, COMETT has had an indirect, catalytic effect on higher education-industry relations. It has also drawn attention to the importance of transnational cooperation.
- COMETT's good administration has encouraged firms to participate in further EC programmes.
- COMETT activities drew attention to the lack of national co-ordination in the area of collaboration between national firms and foreign universities and have encouraged the development of common actions in the Sarr-Lor-Lux region.
- The UETP has supported the QUALIF programme on quality management of informatics projects between firms and national bodies. It has also brought together technical innovation bodies with an interest in training.

THE NETHERLANDS

Population: 15.13 m., Population Density: 367.2, GDP/head: 15.6 ppp.

SUMMARY TABLE NETHERLANDS (1990-94)		
	Number	Budget
UETPs: Regional	3	
Sectoral	7	1,455,000
Students	1,567	3,706,315
Fellows	15	97,460
Courses	147	1,685,500
Joint Training Projects	17	3,463,000
Pilot Projects	3	1,500.000
Complementary Measures	21	328,329
TOTAL		12,235,104

1. Background: Legislation, Programmes & Activities

- The higher education sector is divided into universities (WO) and higher vocational training (HBO). Community service is explicitly recognised in 1986 higher education laws.
- The Foundation for Technical Research (STW) subsidised research of high commercial value. The Ministry of Economic Affairs has two large programmes stimulating technological research and for the collaborative development of new commercial products.
- The Boards and administration of HBOs contain industrialists and 6 - 12 month industrial placements are obligatory. Quality assessment increasingly includes industrial review as well as per review. Industrial Liaison and technology transfer points are in most higher education institutions. Continuing education programmes are in expansion.
- Large companies work well with higher education funding professorships and undertaking guest tutorships.

2. National Development of COMETT

- After a slow development during COMETT I, participation has accelerated rapidly. NUFFIC has played an important role in this development through hosting and developing the work of the COMETT Information Office.

3. Networking

- Of the 10 Dutch UETPs, 3 are regional, located in the three technical universities (Delft, Eindhoven and Twente) and covering the whole country, and 7 are sectoral. Most of the well known multinational companies are members of UETPs; success with SMEs has been slower.
- COMETT UETPs help with industrial "cluster" strategies. The organisation of industrial "round tables" have been particularly helpful. TNAs have not always been carried out.
- The main strengths of regional UETPs have been: (1) a close relationship with other intermediary organisations, provincial authorities and companies, (2) concrete and visible results from international cooperation and, (3) knowledge of European expertise and ability to tap it as required. Sectoral UETPs have added a strong international dimension to their work.
- The main weaknesses have been: (1) lack of funding for activities, (2) regions too large, (3) industrial partners not committed enough, (4) industry has low awareness of COMETT, (5) rapid turnover of UETP staff. The difficulties in industrial contact is greater in the regional UETPs.

4. Mobility

- One UETP has set up "Local Strategy Committees" with partner industries to oversee exchanges and influence course content. Others point to a much more modest scale of innovation.
- More attention is now devoted to such practical matters as housing, the structuring of the contacts (a policy of networking instead of informal contacts) and the planned provision of student intern projects as part of the operation of businesses, etc.
- There was a call for simplification of regulations and procedures surrounding mobility schemes. Sanctions and reporting after-the-fact could also greatly improve the efficiency of the programme.

5. Training

- COMETT has internationalised a number of training course activities and has helped orient trainers to training at an international level. More demand-driven courses have been developed due to company involvement.
- Quality has improved in course development through interchange of ideas. European level quality guarantees have been developed by preventing major discrepancies in the different universities and establishing a common core curriculum (on which exchanges are based). Inspectors have been appointed to monitor quality.
- The range of courses available has grown, both in the Netherlands and Europe as a whole along with courses delivered in a greater variety of ways. Training activities have been made more international in nature and there is increasing interest and participation of SMEs

6. Overall Impact

- COMETT has never played a major part in any national debate on higher education-industry cooperation. This is due to COMETT's modest budget and the rich tradition of post-tertiary continuing education for industry. Equally, before COMETT, there was a great deal of contact between universities, hogescholen and companies. On top of this, there is a comprehensive set of measures for the development and dissemination of new technologies particularly to SMEs. Thus COMETT plays a supporting rather than a leading role.
- It has not yet resulted in the formulation of new national or regional policies or links with complementary national or regional programmes. However the Ministry has provided financial support for the UETPs.
- Its main impact has been that it adds the European dimension of training.

PORTUGAL

Population: 9.85 m., Population Density: 106.6, GDP/head: 9.06 ppp.

SUMMARY TABLE PORTUGAL (1990-94)		
	Number	Budget
UETPs: Regional	4	
Sectoral	6	1,350,000
Students	1,321	3,282,700
Fellows	59	404,660
Courses	127	1,194,500
Joint Training Projects	11	1,970,371
Pilot Projects	1	500,000
Complementary Measures	24	378,656

TOTAL	9,080,887

1. Background: Legislation, Programmes & Activities

- In 1980 the INESC (Institute for Systems and Computer Engineering) was established as an interface between the Technical University of Lisbon and the communications and IT industries. Its main focus is R&D and high level technical training. AITEC (Tecnologias de Informação SA) was set up by INESC to undertake technology transfer and business incubation. In 1984, FUNDETEC (Fund for the development of teaching Electrical, Electronic and Computer Engineering and Technology) was set up by the Technical University of Lisbon to develop new training programmes for engineers. In 1987, ITEC was set up by the Technical University of Lisbon to encourage Portuguese participation in EU Programmes.
- In 1986, INEGI (institute of Mechanical Engineering and Industrial Management) was set up in Porto to improve university-industry links.
- In 1988, the Conselho para a Cooperação Ensino Superior Empresa (CESE) - the office in charge of the proposal of procedures and policies to improve higher education / industry co-operation was set up.
- From the mid-1970s there has been a strong expansion of Portuguese higher education. More recently the universities and polytechnics have been given statutes of financial and administrative autonomy.

2. National Development of COMETT

- The establishment of the COMETT Information Office in the Conselho para a Cooperaçao Ensino Superior Empresa (CESE) has been critical to COMETT's success in Portugal. There is a proposal to integrate similar higher education-industry cooperation into other national programmes based on the COMETT experience.
- The CESE recommended the public support of UETPs to establish better synergy with national programmes. In parallel with COMETT, it has also organised two major higher education-cooperation conferences each year. COMETT activities have also inspired CESE to launch a national training placement programme for degree level people into enterprises and organisations in other EU & EFTA States. It will use much of the information and skills acquired from the COMETT Programme.
- Certain pre-established R&D and technology transfer consortia have spread out into training through COMETT.

3. Networking

- The contribution of COMETT and its UETPs has been: (1) the development of dedicated regional higher education-industry interfaces, but dominated by universities, (2) the addition of an international dimension to these interfaces, previously very weak, (3) Expanded activities to other EU and National programmes (PEDIP, PRODEP, etc.).
- Two UETPs have moved to work with regional authorities in regional development. One UETP has set up as series of technology transfer centres across its region.
- The UETPs/COMETT have strengthened links to higher education institutions and industry abroad giving new R&D and training partners. Similarly for firms, it has brought international contacts and potential markets as well as being a door to other European Programmes. However, firms, particularly SMEs, have a poor input to programme development.
- The six sectoral UETPs (textiles, agribusiness, mining, telecom, biotech) have produced courses, training material, books, directories, etc. and have exchanged students and strengthened links across Europe.
- The main strengths are the transnational dimension of UETP activities, the development of a professional management structure and their specialisation in international technology training. The main weaknesses are that: (1) UETPs are still largely depend on vulnerable financial support, (2) most sectoral UETPs have a confused legal status, and (3) a lack of public awareness and recognition of their potential within the new EC education and training programmes.

4. Mobility

- COMETT has increased student interest in placement abroad and added a European dimension to student training as well as contributing to the development of a European university-enterprise technology transfer network. However, there is still a lack of recognition of student placements within academic curricula and the need for a consistent structural and curricular recognition of transnational industrial placement. Also, a lack of real supervision of training work by universities and enterprises.
- Personnel exchanges, especially enterprise to university, are still difficult due to problems for enterprises in matching personnel training needs to university training methods and release for long periods.

5. Training

- COMETT has produced a strengthening of transnational development of and participation in training activities.
- There has been an improvement of quality and quantity of training materials on the market. However, impact limited due to low level of demand (and supply) of technology related training in Portugal.

6. Overall Impact

- COMETT has contributed to developing new ideas and suggestions in technical training and increasing the awareness of the importance of technology transfer. It has helped in setting up higher education-enterprise interfaces devoted to technical training and has started an innovative dialogue between higher education institutions and enterprises leading to more "tailor made" courses.
- COMETT has contributed to the improvement of national and international contacts between universities and enterprises in training and technology transfer.
- It has forwarded the integration of transnational industrial placements into course structures.

UNITED KINGDOM

Population: 57.75 m., Population Density: 236.6, GDP/head: 14.73 ppp

SUMMARY TABLE UNITED KINGDOM (1990-94)		
	Number	Budget
UETPs: Regional	17	
Sectoral	12	3,860,000
Students	4,785	13,626,124
Fellows	69	410,310
Courses	324	3,347,400
Joint Training Projects	42	8,679,009
Pilot Projects	4	2,000,000
Complementary Measures	71	1,086,556
TOTAL		33,009,399

1. Background: Legislation, Programmes & Activities

- The Department of Trade and Industry, the Department of Employment and the Department of Education and Science are all involved in developing policy for university-industry cooperation. There is particular emphasis on closing the "Technology Transfer Gap". There are tax incentives for training.

- Funding earmarked for the development of continuing vocational training is given to the universities. The Teaching Company Scheme funds young graduates employed by academic institutions to work on defined projects in industry. LINK funds research projects between science based and industrial partners. CASE encourages industry to sponsor postgraduates in return for work on a particular project. The Enterprise Initiative offers companies the opportunity to hire university consultants for short periods. Other associated measures include the encouragement of technology audits, the setting up of Faraday Centres (similar to the Fraunhofer Institutes), the Enterprise in Higher Education Scheme, the setting up of the Training & Enterprise Councils (TECs), the High Technology National Training Programme, etc.
- There is now extensive representation of professional and industrial bodies of governing bodies of higher education institutions and their sub-committees. Higher education institutions are becoming increasingly involved in technology transfer and setting up companies. University staff are now actively encouraged to participate in the commercial exploitation of their research. Most universities have Industrial Liaison Officers and many have set up Science Parks.
- Income for industry to higher education institutions is increasing. Some large firms have Education Liaison Officers. There is strong industry representation on the funding councils for universities. The CBI negotiates industry's position with respect to higher education.

2. National Development of COMETT

- Strong participation in COMETT I carried over into COMETT II. The continued development has been based on: (1) the good organisational capacity of higher education institutions and the fact that they were well linked to enterprise before COMETT, (2) the historic importance given to industrial placements, (3) the entrepreneurial spirit which has developed in higher education institutions since the 1980s, (4) recognition of the importance of trans-European co-operation, (5) the national structures supporting university-enterprise cooperation and the work of the COMETT Information Office.

3. Networking

- After 1990, the UK had 25 UETPs: 17 regional covering the whole of the UK and 8 sectoral UETPs. Four additional sectoral UETPs were added in 1992.
- Universities thought UETPs most relevant at a regional rather than national level. UETPs were effective at marketing COMETT. Newsletters, meetings, placements, short courses were all useful. Generally, companies recognised the need for university - enterprise networks and saw UETPs as one of the catalysts in this area. All UETPs saw a need for higher education-industry networks which would develop transnational links and provide information on EU training opportunities.
- Over half the Universities believed that UETPs had little or no effect in helping enterprises communicate their needs: many other routes existed. For firms, UETPs helped in TNA and in raising the profile of training in the company. UETPs provided little clear evidence that they themselves had been helpful in this area: 54% of regional UETPs though little had been achieved.
- Universities believed UETPs helped them to look beyond national boundaries establishing links with other universities and enterprises across Europe. For enterprises, UETPs found partners abroad and provided EU students for placement. 61% of regional and all sectoral UETPs thought they had contributed some or a great deal to encouraging transnational co-operation. Sectoral UETPs' contribution was not strongly differentiated from regional UETPs. They did, however, seem to have closer and more frequent contacts with companies.
- Universities believed UETPs strengths lay in their extensive contacts with other UK & EU UETPs, universities and enterprises. Also, their commitment to industrial development and catalytic stimulation of university / industry interaction. Weakness lay in insufficient funding and sometimes in not being firmly enough linked into their own regional structures. For enterprises, UETPs' strengths lay in their ability to bring European organisations together and provide the latest on EU technology training activities. Also, the provision of European placement opportunities. The weakness lay in the lack of communality between sectoral and regional UETPs and the funding process which made long term planning difficult. Communication through promotion and publicity was poor. Low awareness of UETP existence. Regional UETPs saw their strengths as: networking, expertise in mobility programmes, links with the Commission, project management, an access point for all to higher education institutions, enterprises and EC Programmes. Weakness were insufficient funding, dependence on EC funding and inability to generate other funding, difficulty in retaining industry's

interest, being all things to all, etc. Sectoral UETPs strengths included: a clear mission, good support from higher education institutions, industry and EC, expertise in EC funding and project management. Weaknesses included: relatively poor industry links and a poor commercial orientation as well as poor links with some countries.

4. Mobility

- Just over half the Universities believed student placements had contributed to innovation within the institution. Two thirds of enterprises felt that they had benefited from having the placement; breaking down national barriers and opening up marketing opportunities as well as the specific technical element contributed. 85% of regional UETPs felt that student placements had contributed to innovation: establishing new links, increasing interest and demand for students, linking companies to new markets, benefiting universities and linking enterprises to a large pool of well motivated students, etc.
- Half the universities modified policies or practices ranging from greater academic recognition for placements to modification of placement procedures. Half the firms surveyed had made modifications. About three-quarters of UETPs thought universities and enterprises had made such modifications: flexibility in course design, assistance to lecturers in visiting students abroad, insurance policies, better language preparation, etc. Enterprises had become more flexible in planning and defining work programmes, etc.

5. Training

- Universities were evenly divided as to whether COMETT had made innovative contributions in training. 70% of firms thought COMETT had made little or no impact in innovation. Of UETPs, only 16% of regional and 57% of sectoral UETPs thought that some or a great deal had been achieved. This failure was due to insufficient funding and lack of availability of SME staff time.
- In terms of quantity or quality of training, enterprises felt that COMETT had made little or no contribution. About half the UETPs felt that COMETT had made a contribution to quantity and quality through access to a wider group of experts, adding European value, levering other funding, etc. Universities were evenly divided as to whether COMETT had contributed.
- 59% of firms felt that COMETT complemented their own training activities. Sectoral UETPs were more positive than regional UETPs: 57% thought some or a great deal had been contributed.
- Conclusion: ... "the COMETT programme (has) generally been successful in helping to increase awareness of Europe in education and training... (but) has been very modest in scope when compared with complementary regional and national actions... The main value added by COMETT has been to open up the practice of placements to a wider range of companies.... It has also helped to establish new contacts between universities in this country and companies in other Member States or in EFTA countries."

6. Overall Impact

- Universities generally believed COMETT had added some impetus to the debate on higher education-industry collaboration. However, many noted that the debate had gone on long before COMETT. 43% of enterprises thought COMETT successful in this area. 36% disagreed. 58% of regional and 71% of sectoral UETPs though that COMETT had made a worthwhile contribution.
- Most universities believed that COMETT had made a worthwhile contribution. It had increased links both locally and across Europe. Some enterprises thought that COMETT had produced only minimal new collaborative ventures. Some thought that COMETT- developed university-industry links had introduced new ideas into the workplace. 70% of all UETPs felt that they had made a worthwhile contribution in this area. Areas ranged from student placement to creating new transnational links, to skills and training needs analysis at regional and sectoral level, to issues of graduate employment.
- 49% of universities thought COMETT did not influence policy; most policy was already well developed. 36% of firms thought COMETT has had some or considerable influence on their policy towards universities. Only 25% regional and 14% sectoral UETPs thought that COMETT had some or considerable influence. However, many felt that the indirect influence had been important. COMETT complemented and enhanced existing models of university-industry collaboration.

- For firms, the main examples of COMETT benefits were access to providers of European expertise and a greater awareness of European training issues. 44% were involved in similar activities. 77% regional and 60% sectoral UETPs reported establishing links between COMETT and other national/regional policies sharing complementary aims.
- Universities generally believed COMETT to have little impact, even locally. However, the international aspects were seen to give credibility to EU training policies. Some thought it had improved technology skill in local companies. Half the firms felt that COMETT had made a worthwhile impact on their own company particularly through the student placement, opening up new skills and awareness of the EU market. Companies felt that the overall regional impact of COMETT was small. UETPs felt that impact was limited by insufficient funding being available to generate large scale interest and participation.

AUSTRIA

Population 7.83m., Population Density: 93.7, GDP/head: 16.7 ppp.

SUMMARY TABLE AUSTRIA (1990-94)		
	Number	Budget
UETPs: Regional	4	
Sectoral	1	735,000
Students	796	1,989,560
Fellows	73	634,310
Courses	84	826,500
Joint Training Projects	8	1,336,000
Pilot Projects		
Complementary Measures	13	187,080
TOTAL		5,708,450

1. Background: Legislation, Programmes & Activities

- There is no specific Austrian university - industry cooperation legislation. However, a 1988 law permits university departments to act as entrepreneurs in their academic field: this is particularly useful for contract research. Importantly, the "University Study" law includes continuing education provisions: a well defined framework for certification, financing, use of university infrastructure, staff payment, etc. Recent major reform centres on the establishment of a *Fachhochschulen* system.
- Two particularly relevant programmes are (1) "*Scientists for Industry*" which enables young university lecturers and researchers to spend up to two years in companies and (2) "*Scientists Establish Enterprises*" which provides seed money for start-ups based on the scientist's research work.
- Important higher education-industry cooperation activities include (1) National and regional S&T fairs to present R&D results to companies and (2) "FoDoc Austria" which is a nation-wide information system on research potential and projects in all universities and academies.
- A network of technology transfer and continuing education institutes, university extension centres and industrial liaison offices have been established.
- It is usual to undertake diploma and doctoral theses connected to industrial project work. Lecturers from industry are usual in universities' CET programmes.
- Thus, overall, university- industry cooperation relations are well developed.

2. National Development of COMETT

The national development of COMETT activities has been rapid and successful because :

- The UETPs fit easily into the existing, well developed higher education-industry cooperation structure.
- The COMETT Information Centre provided active and effective support. It initiated projects, arranged conferences, seminars, workshops, information services, etc.
- The Ministry for Science & Research provided central support and co-funding, and expressed a willingness to provide future support.
- The "EC" label was useful. Most leading organisations now participate in COMETT including a strong enterprise input.

3. Networking

- The 4 regional UETPs (APS, ATTAC, CATT & DANUBE) have provided
  - A regional platform for training & technology issues while raising regional and national consciousness of these issues.
  - International partners and a European dimension to technology training, acting as a regional focus of European initiatives. They assist the integration of regional SMEs and other partners into European projects and issues. This has led to a motivation and sensibilisation to international technological development.
  - Short courses and personnel exchanges as well as spin-off companies from such activity. They have developed a greater synergy between research and training.
  - A transnational outlook through work with European partners, placements and the influx of foreign students into Austrian firms.
- The strengths of the UETPs are: (1) secure, legal and independent status as a base for a democratic partnership, (2) high acceptance and good regional support and financial commitment of public and semi-public institutions, (3) skills in managing European training projects; (4) closeness to firms and technical credibility, (5) links to other EC networks, (6) links to universities and the strength of existing university "Extension Centres" in Austria, (7) well motivated personnel and lean and efficient structure.
- The weaknesses of the UETPs are: (1) weakness in linking COMETT to other EC projects with Austria as an EFTA member, (2) lack of marketing and sales strategies, (3) limited numbers of staff, (4) some regions with weaker universities and technical studies base, (5) the time taken to develop a specific profile, (6) the lack of time for self-training for a complex area, (7) COMETT projects are too short to create an "international training philosophy", (8) annual reduction of financial support, (9) uncertainty in transfer to LEONARDO.

4. Mobility

COMETT has brought:

- systematised student placements on a project oriented basis with a clear work plan and defined provisions for academic recognition
- enterprises are adopting a "placement culture" and providing better facilities and professional guidance for students; their acceptance of students has become easier and more formalised
- staff exchanges provide considerable feedback and linkages between universities and enterprises; they are, however, very difficult and time consuming to organise, particularly for longer periods.

5. Training

COMETT has been important because of

- Developing training projects with potential users and international partners It has led to multi-location delivery of courses and improved international marketing and better access to courses. The threshold to organise or participate in courses has decreased. Providing training for SMEs has become more attractive. UETPs have complemented the training activities of university Extension Centres.
- Improving quality (more than the quantity) of training due to (1) a wider exchange of expertise and views and (2) providing the opportunity to compare the state of art in different countries.

- Carrying out a number of specific TNAs, as well as constant evaluation of industry needs. Discussions on course concepts and marketing has been organised. Interactive TNA has also been developed. The sectoral UETP has carried out a " State of Art" Survey to act as the basis for a TNA.

6. Overall Impact

- The overall impact has been good, particularly from the UETP system. There has been a major increase in transnational student placements along with improved project oriented design of placements and better academic recognition. The transnational higher education / industry personnel exchanges, which did not exist at all before COMETT, have been useful. There has been an enrichment of the national market for advanced training technology through the international scope and European dimension of courses developed.
- COMETT complements the regional and national programme, contributing to improved Austrian training activities. This is to be seen particularly in the co-funding of national and regional. COMETT has enhanced the international dimension of training. It has linked higher education institutions and industry, supported the development of continuing education at higher education institutions, catalysed the development of TNA, provided experience in the international management of programmes and projects, improved the institutional management of higher education-industry interfaces, extended networks to other forms of co-operation, increased industry interest in highly qualified personnel, etc.

SWITZERLAND

Population 6.83m., Population Density: 165.4, GDP/head: 20.3 ppp.

SUMMARY TABLE SWITZERLAND (1990-94)		
	Number	Budget
UETPs: Regional	3	
Sectoral	4	1,130,000
Students	417	1,048,540
Fellows	29	272,630
Courses	86	867,450
Joint Training Projects	7	1,390,000
Pilot Projects		
Complementary Measures	1	2,082
TOTAL		4,710,702

1. Background: Legislation, Programmes & Activities

- There is no specific higher education-industry cooperation legislation. There is legislation enabling Federal Government to run S&T policy. Certain specific laws (e.g. energy) underpin some higher education-industry cooperation activities. Most higher education is organised at a cantonal level. Thus, legislation and provision can show considerable variation.
- The Commission for the Promotion of Scientific Research (CERS) stimulates research cooperation between research institutes and industry. Some ministries spend heavily on R&D with advice and assessment by university and industry representatives. Long term, priority research programmes and more immediate action research programmes are run by the Federal Ministry.
- Every university has its Office of Continuing Education. A national programme "Specific measures in favour of continuing vocational training at university" provides for complementary and postgraduate studies. The two Institutes of Technology are much more closely tied to industry. The upgrading of

many tertiary education establishments to Fachhochschulen is well under way. Many scientist work in both higher education and industry.

- TE-CH is a national network of technology transfer centres. The two employers' federations have established offices to coordinate research projects and relations with the public authorities. Industry contributes about 2% of R&D in higher education.

2. National Development of COMETT

- Participation in COMETT started in 1990. By 1991 there was strong participation in other countries' projects and Positive Action projects were launched. 1992 saw a strong participation in the Call for Proposals. The 1992 Call saw 7 UETPs established.

3. Networking

- Of the Swiss UETPs, 3 are regional and 4 sectoral. They have opened up a dialogue between the diverse actors in technology transfer and training. They also respond to regional priority issues. They bring SMEs together with both public research institutions and international organisations for cooperative work.
- A six year federal plan has provided the cantonal universities and the federal polytechnics with continuing training mechanisms. The UETPs have worked very closely with and reinforced and enlarged these structures. It has also reinforced federal policies for a stronger internationalisation of higher education institutions. Regional policy is not as yet fully formulated, however, it seems quite possible that bodies such as the UETPs may form an important part of this policy. They have worked well with other EC Programmes.
- As well as providing an international context for higher education-industry cooperation work, the UETPs have also assisted with inter-cantonal cooperation and coordination. Overall, the UETPs have had variable success, particularly in the level of enterprise involvement.

4. Mobility

- There has been a particularly strong effort on the part of the COMETT Programme to assist in the integration of Switzerland into its EU activities through the student mobility placements.
- Personnel mobility has been poorly understood and not been successful.

5. Training

- The Swiss success rate in COMETT II has been high in both the short and long courses.

6. Overall Impact

- Aspects of the Swiss federal and strongly autonomous cantonal systems made the start of Swiss participation in 1990 somewhat difficult. However, with the establishment of a Swiss COMETT Information Office under the Positive Action Programme and increased inter-cantonal coordination, by 1992, there was a fully functional and successful COMETT programme in operation.
- Thus, with the near simultaneous launch of special Federal measures on continuing education at the same time as COMETT has been a good success at both a federal and cantonal level.

LIECHTENSTEIN

SUMMARY TABLE LIECHTENSTEIN (1990-94)		
	Number	Budget
UETPs: Regional	1	
Sectoral		150,000
Students	26	51,890
Fellows		
Courses	2	30,000
Joint Training Projects	1	200,000
Pilot Projects		
Complementary Measures		
TOTAL		431,890

1. National Development of COMETT

- As Liechtenstein became more integrated with EFTA, it began to become eligible to participate in COMETT. It entered in COMETT activities in 1991 under the banner of Switzerland. In 1992, on becoming a full EFTA member, it entered fully into COMETT.

2. Networking

- Liechtenstein applied for a regional UETP in 1992 and was successful. The UETP takes in neighbouring parts of Switzerland and Austria.

3. Mobility

- The UETP obtained 26 student places in 1993.

4. Training

- In 1992, the UETP organised a joint training project on environmental engineering. The UETP organised a short course in both 1993 and 1994.

5. Overall Impact

- The decision of Switzerland not to enter the EU has made it somewhat more difficult to develop COMETT in Liechtenstein.

ICELAND

Population 0.26 m., Population Density: 2.5, GDP/head: n/a ppp.

SUMMARY TABLE ICELAND (1990-94)		
	Number	Budget
UETPs: Regional	1	159,000
Students	51	154,030
Fellows	7	56,300
Courses	7	70,000
Joint Training Projects	2	240,000
Complementary Measures	3	52,994
TOTAL		732,324

1. Background: Legislation, Programmes & Activities

- The institutional separation of research centres from the university and then the lack of graduate courses until 1991 limited the potential for university-industry cooperation.

2. National Development of COMETT

- The COMETT Information Centre and the country's UETP both based in the University of Reykjavik have been important in the success of the Programme.

3. Networking

- There is only one UETP in Iceland. It has undertaken TNA and has developed and run courses to alleviate these needs. It has promoted conferences on higher education-industry relations.
- Initially, it was particularly strong in the fish processing industry but has since broadened out to other industrial sectors.
- The strengths of the UETP have been the participation of the industrial and professional associations with direct access to firms and the strong moral and financial support of the University of Iceland.
- The main weaknesses have been the lack of direct contact with firms and a very insecure financial base.

4. Mobility

- Iceland has always been very internationally minded with a tradition of seeking technical education and training abroad. COMETT acted as a conduit for this ready made market. However, existing informal mechanisms in Icelandic universities and enterprises have not been formalised.

5. Training

- COMETT has pioneered the practice of undertaking TNA and then discussing the best means to alleviate the needs with industry. It has also pioneered the extensive preparation of quality training programmes with international university experts and enterprise leaders.
- Quality training courses have been developed. However, not enough courses have been available nor have new modes of training delivery been sufficiently exploited.
- Thus, COMETT has added a new dimension to training (rather than simply complementing it) through TNA, high quality course preparation and training of trainers.

6. Overall Impact

- COMETT has had a strong impact. It has provided an acceptable European forum for a debate which had previously been fraught with mutual suspicion. It has also helped legitimised in industry's eyes much of the higher education expertise existent in Iceland. It has provided part of the basis for a dialogue on university-industry relations.
- Due to the SME nature of Icelandic industry, COMETT has had to work with industry and professional associations at an administrative level. Specific firm contact takes place during projects and placements. The direct contact nature of Icelandic society has meant that COMETT may initiate contacts but then ceases to be an intermediary. The programme has catalysed various training, research and placement activities.
- Thus, it has accelerated contacts with universities and firms across the EEA and had a strong effect in focusing higher education institutions on the need to market their education, training and research to industry. It has also developed better industrial awareness of university graduate recruitment

NORWAY

Population 4.27 m., Population Density: 13.2, GDP/head: 15.35 ppp.

SUMMARY TABLE NORWAY (1990-94)		
	Number	Budget
UETPs: Regional	4	
Sectoral	2	930,000
Students	360	1,018,100
Fellows	27	169,180
Courses	46	477,000
Joint Training Projects	4	818,000
Pilot Projects	1	500,000
Complementary Measures	3	47,280
TOTAL		3,959,560

1. Background: Legislation, Programmes & Activities

- The Norwegian Institute of Technology (NTH) in Trondheim is the only technical university in Norway and has had to play a major role in the development of the oil industry since the 1970s. SINTEF is a foundation of the NTH used for undertaking university-industry cooperation, particularly in the field of contract R&D and continuing education.
- The 1991 White Paper on Higher Education argued for closer internal collaboration between the educational institutions in an integrated "Norwegian Network" as well as collaboration with external institutions, but there has been no national programme.
- The Norwegian Research Councils have university-industry technology transfer programmes. The Ministry of Industry wishes better collaboration between research institutes and universities.
- The Norwegian Long Term Plan 1994-97 seeks "to spread available technology and competence to companies.. (and a) More rapid updating and renewal of technical and professional skills.."

- The 1993 National Budget noted that "International collaboration in higher education must be strengthened including participation in international education programmes.."

2. National Development of COMETT

- The somewhat ambivalent attitude of Norway towards the EU and the volume of new EC Programmes may have accounted for a very slow start in 1990 with only 11 projects submitted and 6 accepted.
- The Positive Actions of COMETT in 1991/92 saw a major expansion of involvement with 5 additional UETPs being formed the next year

3. Networking

- The UETPs have encouraged regional cooperation between regional business interests and the established education and training system. They have brought a European dimension to universities' traditional industrial liaison and continuing education functions. They have developed a nation-wide information distribution network through technical journals and newsletters as well as annual conferences on technical skills. They have also assisted in the development of courses and arranged student placements. They have moved from training co-operation to RTD projects and developed sectoral activities.
- The activities of the UETP have varied from direct TNA and subsequent course development to support to industry in its own efforts: as one UETP put it; "Help towards self-help".
- Transnationalisation of activities has been a major success of all UETPs. Sectoral UETPs have from the start been transnational. Regional UETPs have, however, also been successful.
- The two sectoral UETPs have been based at the Norwegian Institute of Technology (NTH) in Trondheim with very close connections to SINTEF. The UETPs have added to the international character and activities of this large technology complex through international TNA, short courses, student and staff exchanges and have gone on to develop larger RTD projects outside COMETT.
- The main strengths of the UETPs have been: (1) the strong European network developed, (2) the support of the Norwegian government and regional authorities, (3) the active commitment and support of the NTH for three of the UETPs, (4) the active support and participation of the Norwegian Society of Chartered engineers (NIF) and the Federation of Norwegian Engineering Industries (TBL).
- The main weakness has been that the budget allocation requirements were underestimated.

4. Mobility

- Mobility actions have been used by partners in larger COMETT and other projects as a means of both cementing and developing co-operation.
- The Norwegian government has made granting of work and residence permits to COMETT students de facto. Agreements with Student Accommodation Offices greatly facilitated incoming students. Agreements with the Universities gave COMETT students full student rights (travel rebates, student activities, etc.). The TBL recommended student placements to its members.
- Overall, there has been an improvement in student placement practices.

5. Training

- Courses have been developed from the start for a European audience and with a European dimension. Some courses have developed from other EU investment (e.g. ESPRIT II). Extensive use of new techniques, software programmes and simulation tools have been incorporated. COMETT activities have been both a practical instrument and a catalyst.
- The emphasis has been on quality improvement. COMETT has introduced a number of "quality partners" into the development of courses and continuing education activities who would, otherwise, not have been available in Norway.
- The close similarity between the objectives of COMETT and national objectives in the field of technology transfer and training have ensured complementarity.

6. Overall Impact

- COMETT has not been strong at a national level, but has been quite important at the regional policy and planning level. At a regional level, the role of COMETT in the development and implementation of regional and county strategic plans in Norway should be stressed.
- Where these had already been prepared, for example in Western Norway, COMETT has become an important tool for implementation; in other cases COMETT's objectives are being adopted as part of the premises for plans currently in preparation.
- Membership of COMETT has provided technology transfer and training with a European aspect which would otherwise have been lacking or would have had to be laboriously constructed, using national resources and on purely national terms; hardly the optimal point of departure for the creation of an international programme of cooperation.

SWEDEN

Population: 8.64 m., Population Density: 19.2, GDP/head:16.2 ppp.

SUMMARY TABLE SWEDEN (1990-94)		
	Number	Budget
UETPs: Regional	4	
Sectoral	2[3]	888,000
Students	807	2,245,940
Fellows	13	111,000
Courses	83	998,000
Joint Training Projects	13	2,311,038
Pilot Projects	1	500,000
Complementary Measures	15	240,952
TOTAL		7,294,930

1. Background: Legislation, Programmes & Activities

- Higher education-industry cooperation is well established since the 1960s in Sweden. Industrialists serve on higher education commissions. Since legislation in 1977, industrialists can sit on all study programme committees. Faculty can take on external contracts and be seconded to enterprises. Since 1975, universities give vocational training programmes.
- The Swedish Board for Technical Development (STU) was set up in the late 1960s to improve the technical level in Swedish enterprises: a special target was university/enterprise cooperation. It quickly launched a system of liaison offices in higher education institutions. Research managers in big companies serve as part-time professors. Small companies can "borrow" scientists for periods up to six months, with half their salary paid by the industrial liaison function. In North Sweden, small companies can employ a new engineer for six months from the local university with the salary paid for by the liaison office. This helps prevent migration to South Sweden.
- 1992 legislation has given higher education institutions far more autonomy and has introduced a system of evaluation of university performance. All Masters of Engineering programmes have compulsory industrial placements.

[3] There are two more sectoral UETPs with a Swedish coordinator, but a non-Swedish contractor.

- 1992 legislation has given higher education institutions far more autonomy and has introduced a system of evaluation of university performance. All Masters of Engineering programmes have compulsory industrial placements.
- Industrialists are on governing boards of universities and technical universities. Several Science Parks have been established with industry. There are many exchange chairs and guest teachers from industry. There are many research contracts funded by industry, and cooperative research institutions have been built up. On average, 10% of higher education institutions' activities are funded by industry.

2. National Development of COMETT

- COMETT is the first EU Programme in which EFTA countries have been able to take part. Support from unions, employers, regional, local authorities has been very strong. Interest was heightened by the proximity of entry into the EU.
- The topics in COMETT were high on the agenda for Sweden: (1) the internationalisation of higher education, (2) the need for continuing education in SMEs, and the need to use universities for high scientific level training, (3) he need for SMEs to get closer contact with foreign markets.

3. Networking

- In 1990, Sweden obtained four regional UETPs, all in the South, and two sectoral UETPs. These were supplemented in 1992 by three new sectoral UETPs. One of the strengths of Swedish UETPs is their strong involvement in DELTA.
- However, their contribution outside of the companies and universities directly involved in the projects has been small. They have had an identity crises.
- Indirect contributions include: (1) diffusion of information, (2) increased marketing for technology and training, (3) European arena for co-operation and political pressure developed by sectoral UETPs which have functioned fairly well, (4) the demonstration effect of international activities.
- Most UETPs have tried to undertake TNA. However, many organisations are active in this field.
- The main strengths have been the devotion of UETP people and the ability to work in a trans-European perspective and to support other programmes. The main weaknesses have been the lack of involvement of industry, especially SMEs, and the inter-regional transfer of experience.

4. Mobility

- There has been nothing fundamentally new in student placements. The personnel placements have hardly been used. There is, however, an increased dedication to finding places for students in bigger companies. Some of these have used COMETT to try out potential employees in subsidiaries abroad.
- Some SMEs have experienced foreign students for first time. This has brought an increased sensitivity to cultural differences.

5. Training

- In the area of training, the largest COMETT contributions have come in the preparatory work-discussions and negotiations around the application and the formulation of the "order" to university teachers.
- With sectoral UETPs, the influence of industrial branches has been stronger in training development.
- An IT network has been set up (initially for information and partner search) and is looking towards use for in-situ training for industry. Quality control has become an important and conscious issue as courses have to be given by different teachers in different countries. COMETT has been in operation too short a time to judge it. Its scale has been too small for a major impact. Reuse of courses developed has been very low.

6. Overall Impact

- The overall impact has been marginally on the national level but there has been some on the regional and local level. The Programme is small. Also the economy has been depressed. There has been little fostering of university-industry relations, apart from those directly involved. Universities already have strong continuing education units. However, the fostering of international relationships for Swedish universities and companies has been new.
- There has been no influence on policy on the national level but some on the regional level. There has been some synergy between university continuing education programmes and UETPs.
- The overall impact has been small. Strand B has been the true success, particularly for the larger SMEs. Networks developed will be used for other projects. COMETT has also improved understanding of the EU.

FINLAND

Population: 5.03 m., Population Density: 14.9, GDP/head: 16.1 ppp.

SUMMARY TABLE FINLAND (1990-94)		
	Number	Budget
UETPs: Regional	3	
Sectoral	2	685,000
Students	634	1,560,365
Fellows	71	690,350
Courses	78	740,000
Joint Training Projects	9	1,845,000
Pilot Projects		
Complementary Measures	17	247,568
TOTAL		5,768,283

1. Background: Legislation, Programmes & Activities

- There is no specific law for university-industry cooperation, but existing legislation is quite permissive of such activities.
- The Academy of Finland has a programme to support postgraduates in industry. The Ministry of Education has a similar programme in IT. The Technology Development Centre (TEKES) finances programmes based on university-industry cooperation and on research training. Finnish education has undergone a rapid expansion since 1986. The institutions of higher education are increasingly being considered Regional Development Centres.
- Traditionally, practical training in industry has been a compulsory part of technical degree programmes. Continuing education is one of the fastest growing areas of higher education. Several Science Parks have been launched in the last decade. Institutes of Technology have launched "enterprise service departments". Uniscience Ltd has brought the universities and industrial federations together to provide services based on the joint know-how of the universities. 85 vocational institutions have been grouped into 22 fachhochschule type institutions with close cooperation with industry.
- Industry has traditionally been close to higher education. Large companies have launched their own postgraduate training programmes and are increasing their demand to higher education. They are forming long term relationships and contracts. The number of PhDs in industry is rising quickly.

2. National Development of COMETT

- Finland, being an EFTA country, only became involved at the beginning of COMETT II but has made a good start. This was due to the strong base to existing university-enterprise cooperation and the centres of continuing education already in place in universities. Equally, there was much existing experience in international student exchanges and Government, itself, was launching an initiative to internationalise higher education institutes. The COMETT Information Office also played a major catalytic role.

3. Networking

- Finland gained five UETPs in 1990: 3 regional, one mixed and one sectoral. All except the sectoral UETP were hosted by universities. In 1992, shared responsibility for an additional UETP was obtained. In 1994, a sectoral UETP was moved from the Netherlands to Finland.
- The UETPs have bridged the gap between Brussels and participating Finnish organisations, particularly enterprises. All UETPs have undertaken SNA leading to the formulation of new projects. They have also stimulated and assisted international cooperation, very often turning a national project into a European one. The two sectoral UETPs have had a visible impact on training in their respective sectors.
- The main strength has been the close co-operation between UETPs and with Information Centre.
- The main weaknesses have been the lack of full UETP coverage of the country, while at the same time, economic recession has limited extension of industrial partners. Because COMETT was the only programme in which Finland was able to participate, UETPs have been restrained to working mainly with COMETT.

4. Mobility

- There has been a long tradition of student placement abroad. Thus COMETT has provided a new channel rather than a full innovation. However, particularly for the Institutes of Technology, COMETT has provided an efficient means to increase high quality placement. Expert exchanges (Bc), while not new, have been appreciated as one of the most useful activities in COMETT. In 1994, Finland was the second biggest sending country in COMETT!
- The decentralised nature of COMETT has encouraged individual officers in universities taking care of international affairs to take initiatives and more responsibility in arranging placements. Previously most work was centralised. Enterprises have moved from an approach of charity towards accepting students towards recognising their real added value.

5. Training

- COMETT has not had any major impact at a national level due to the small number of projects. However, courses which would have been only national have been made European. Courses have been held in English for foreign participation. Material produced has been recognised as useful by industry.
- COMETT has effectively contributed to increasing European co-operation and has helped create new contacts and new forms of collaboration.

6. Overall Impact

- Because there has been a strong higher education-industry tradition of cooperation, exchange and placements in Finland, COMETT is not seen to have had any significant impact at a regional or national level on higher education-industry relations or formulating policies. The innovative effects have been at the transnational level. Established tradition in university-enterprise cooperation gave a good starting point for the implementation of the programme.
- There has been strong synergy with the National Programme to increase the transnational activities of the Institutes of Technology. Two thirds of outgoing Ba students have been from such Institutes. The Ministry of Education has provided special bonus moneys to academic universities which increase their transnational activities. Participation in COMETT is now one of the criteria for such awards.
- Experience in cooperating in an EU context, both for authorities as well as for organisations participating in the Programme has been gained. A solid base of successful participation in an EC Programme has been achieved.

Annex 3. List of COMETT publications

Below is given a list of the main documents and publications relating to COMETT issued between 1990 and 1994; some publications to appear in 1995 have also been included.

Official documents relating to the Calls for Applications

- COMETT background document — 9 languages
- Vademecum COMETT II — 9 languages
  This document contains essential information about the COMETT programme and sets out the objectives and operational structure of the programme.
- Application Package 1990, 1991, 1992 — 9 languages
  Available in paper and diskette form, the Application Package is aimed at those who wish to submit projects to COMETT. The package contains general information on the COMETT programme and indicates how proposals should be formulated. Application forms are also included.
- Application Package 1993, 1994 — EN/FR/DE
  Since 1993 this document has been printed in 3 languages.

General information on the programme and its outputs

- The COMETT Bulletin — EN/FR
  From February 1988 to December 1993, the COMETT Bulletin was produced three times a year and contained a range of articles concerning the programme and its links with other Community initiatives within the fields of education, training, technology and R&D. It also provided information on COMETT projects and the development of the programme. Publication ceased in December 1993 to make way for the new Task Force publication Le Magazine.
- COMETT brochure — 9 langues
  First published in 1990, this A5 brochure explains the structure of the programme in a simple and user-friendly format. Starting with a general explanation of the COMETT objectives, the brochure explains all Strands of the programme and contains basic budgetary information.
- COMETT Pilot projects (information folder) — EN
  Aimed at a variety of different audiences, the folder consists of individual information sheets on COMETT pilot projects. The information sheets are presented in a simple format and cover each project's objectives, training materials and transnational partners.
- Catalogue of COMETT I outputs — EN
  The Catalogue provides key information on the outputs of all COMETT I projects including courses, training materials, studies, databases and newsletters. A statistical overview of COMETT I is also provided.
- COMETT Project Compendium 1990, 1991, 1992, 1993/94 — EN/FR
  The Compendium provides basic information on all COMETT projects accepted after each Call for Applications. Projects are listed with project title, a short summary and the full address of the contact person. A statistical overview is included, and several indexes and lists are provided so that projects may be easily identified.
- Transnational student placements: the COMETT experience. — EN/FR
  This step-by-step guide draws heavily on the experience of COMETT in managing transnational placements in Member States and EFTA countries. Intended as a practical working tool for student placement organisers, the guide contains tips for organisers and students alike, country files and information on student placements within the ERASMUS and TEMPUS programmes.

Reports and studies

- The development of COMETT I — FR/EN
  This internal monitoring report on COMETT I covers the period 1987 - 1989. One chapter is devoted to each of the five COMETT I Strands and country reports are included for all 12 Member States. As well as providing general statistics for the duration of the COMETT I programme, the document also presents statistics by Member States.
- The development of COMETT I (Executive Summary) — FR/EN
- COMETT I. Final Report of the Commission — 9 languages
  This official report concerns the first phase of the COMETT Programme. It documents the background to the Programme, its rationale, structure and implementation, with particular regard to its impact in the different operational Strands. It is a synthesis of a great deal of documents, reports, surveys, studies and analyses undertaken during the first operational phase.
- COMETT Programme. Report of activities 1990, 1991, 1992, 1993 and 1994 — 9 languages
  The Annual Report is a formal record of all COMETT activities within a given year. Subjects covered include results of Calls for Application, programme management, monitoring and evaluation, conferences, etc. Also included are a statistical overview of COMETT projects, an update on pilot projects and a list of publications.
- National profiles 1992, 1994 — Mixed EN/FR
  Covering the twelve Member States and seven EFTA countries, the national profiles contain an account of the COMETT development in each country, with a breakdown of activities within each Strand of the programme.
- Regional profiles 1993, 1994 — Mixed EN/FR
  Focusing on the contribution of COMETT to regional development throughout the 12 Member States and 7 EFTA countries, the profiles contain statistical tables of COMETT funding and a breakdown of activities within each Strand of the programme.
- Sectoral surveys (series)
  COMETT activities within ten key technology sectors are presented in a series of sectoral surveys:
  - Medical technology and biomedical engineering in COMETT (EN)
  - Advanced manufacturing technology in COMETT (EN)
  - Technology and innovation management in COMETT (EN)
  - Microelectronics in COMETT (EN/FR)
  - Software technology in COMETT (EN)
  - Materials in COMETT (EN/FR)
  - Environment in COMETT (EN)
  - Biotechnology in COMETT (EN)
  - Mechanical engineering in COMETT (EN)
  - Agrofood in COMETT (EN)

COMETT II Evaluation reports

- COMETT Evaluation (ECOTEC, 1991) — EN/FR/DE
- Transnational training for technology in Europe - the COMETT experience
  (COMETT II Interim evaluation report 1990 - 1992) — EN/FR/DE
- COMETT II: Evaluations (1993) — EN/FR/DE
  - First part - Report by the Panel of Experts: COMETT. Transnational training for technology. The future of industry-university cooperation.
  - Second part - National Evaluations
  - Third part - GMV Report: Evaluation of the COMETT Programme
- The Final National Evaluations of COMETT (1995) — EN/FR/DE
- COMETT II. The Final Evaluation Report *(this report, 1995)* — 11 languages

Reports for the final evaluation of COMETT (series: 'COMETT: the results')[1]

- COMETT II in figures - a statistical overview — EN/FR/DE
- Networks and European partnerships - COMETT UETPs: reality and perspectives — EN/FR/DE
- COMETT II: the results. The mobility actions, 1990-1994 — EN/FR/DE
- COMETT II: the results. Joint training report. Lessons and experience — EN/FR/DE
- La mobilité d'étudiants COMETT en entreprise, 1990 - 94 — FR
- Placements de formation avancée, 1990 - 94 — FR
- Echanges de personnel, 1990 - 94 — FR
- Cours de formation de courte durée, 1990 - 94 — FR
- COMETT II: the results. Strand Cb/Cc report — EN
- Complementary measures - strategic plans and actions of COMETT UETPs, 1990-1994 — EN
- EFTA countries in COMETT II - an overview — EN
- COMETT II: the results.
  - Linking R&D and education — EN
  - SMEs in COMETT projects — EN
  - A sectoral view on COMETT — EN
- The creation and development of successful university-industry partnerships
- The contribution of the COMETT programme to the innovation in continuing education and training
- COMETT: the results. Manual of good practice for skill needs analysis — EN/FR
- COMETT: the results. Student mobility in the COMETT programme — EN/FR
- COMETT: the results. The impact of COMETT on SMEs — EN/FR
- The regional impact of the COMETT Programme

Other outputs

- COMETT Video: "Forging the Europe of the future" — 9 languages
- COMETT leaflets — EN/FR/DE
  - COMETT - User Guide
  - COMETT - facts and figures
  - University-enterprise training partnerships
  - Industrial student placements
  - Training for European industry
  - COMETT and higher education
  - Technology management
  - COMETT and SMEs
  - Women and technology
  - Linking R&D with training
  - COMETT and Micro-electronics
  - COMETT and Biotechnology
  - COMETT and Agriculture
  - COMETT and the automobile industry
- Slide show COMETT 1992, 1993 and 1994 — EN/FR/DE
- COMETT Posters — 9 languages
- Database of COMETT projects — EN

[1] These are partly working titles, since the documents are to appear in 1995

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Annex 4. Organisation of the COMETT programme

A.4.1 Management and main actors involved

A number of organisations have worked together to implement and manage the COMETT programme. As specified in the Council Decision, the ***European Commission***, in particular the Task Force Human Resources, Education, Training and Youth (now DG XXII) had the primary responsibility for the implementation of COMETT. In addition to setting out the policy guidelines this comprised notably the dissemination of information relating to the programme, its application possibilities and the project outcomes, the assessment and selection of projects, the issue of contracts and the financial management.

The Commission was assisted in these processes by the ***COMETT Committee***, composed of representatives of the 12 Member States, and the ***EFTA Joint Committees***, the ***COMETT Information Centres*** established in each of the EU and EFTA Member States, and the ***COMETT Experts group.*** The ***COMETT Technical Assistance Office*** provided technical and professional support.

The ***COMETT Committee*** consisted of two representatives from each Member State, selected on the basis of nominations made by the Member States, as well as two representatives of the social partners at Community level as observers. The Commission had to consult the Committee on matters concerning the implementation of the COMETT Programme. The Committee met three to four times each year. The Committee delivered opinions mainly on general policy issues, such as the general guidelines for the financial assistance to be provided, the pool scheme (which the Committee fully supported) and the complementary measures. As regards project selection, the Committee was involved in the general procedures for selecting the various types of projects, and had to provide an opinion on any project requiring a contribution of more than 100.000 ECU. Towards the end of the programme, the Committee also became increasingly involved in the evaluation of the programme, in particular the national evaluations.

Since the launch of COMETT II the EFTA countries have participated in the COMETT programme, and ***Joint Committees*** were established between the European Community and each EFTA country, in order to discuss COMETT matters involving EFTA countries. These Committees met about twice each year, in general after a COMETT Committee meetings (which EFTA country representatives were not allowed to attend).

At the national level the ***COMETT Information Centres*** played an important role in the dissemination of information and raising awareness. The Information Centres' main tasks have been to respond to information queries concerning COMETT, especially on projects led by organisations within their country, and to produce informational material (brochures, bulletins, etc). During the life of the programme, they have also organized a considerable number of information days, workshops, press meetings and conferences, and have assisted potential promoters with the preparation of new applications and to disseminate information about COMETT project outputs. Some Centres went even further and acted to some extent as a broker for project partners, often in cooperation with UETPs from their country.

As to the content and quality of selected projects, the Commission has been assisted by the COMETT Expert Group. They were appointed by the Commission, in consultation with Member States, on the basis of their knowledge and experience of a particular area or sector relevant to COMETT. The Group was invited to express its opinion on projects submitted and selection procedures applied for each call for applications, with particular attention to projects under Strands A and C. In particular they were asked to review the quality and relevance of the proposed projects for industrial needs. In addition to the Experts group, other Commission Departments, especially those responsible for R&D programmes, have been involved in the selection process, so as to ensure synergy across Community actions.

Finally, the COMETT Technical Assistance Office (TAO) is non-profit organisation based in Brussels, with whom appropriate contractual arrangements have been made, which had primarily a direct support task to sustain the Commission in its work. Its activities included notably the practical organisation of the Calls (preparation, translation and printing of Vademecum and Application Package, mailing of application documentation, providing information and assistance to potential applicants, organisation of the selection procedure, including scrutiny and pre-assessment of all submissions, preparation of contracts, payments to contractors, and monitoring progress on the basis of annual project reports. It also produced the drafts of many of the COMETT publications and documents.

A.4.2 Overview of support activities

There have, essentially, been three types of support activities in the COMETT Programme:
- oral and written responses to queries for information
- production and dissemination of reports and other publications
- organisations of meetings, workshops and conferences.

Direct support to interested organisations, by responding to oral or written requests for information, has been a major, continuous activity during the COMETT programme. It has been an important task of the Commission staff, the COMETT Technical Assistance Office and the COMETT Information Centres. Queries were not only made by potential applicants, but also frequently by national and international organisations, policy-makers, sectoral associations, governmental bodies, etc.

A wealth of information products have been produced in relation to the COMETT programme. This includes:
- official application documentation for promoters, particularly the COMETT Vademecum and Application Packages
- promotional brochures, providing information about various aspects of COMETT
- official reports, providing facts and findings illustrating the progress made, such as the annual reports and the interim report on COMETT II
- newsletters, published both at Commission level (COMETT Bulletin), and at national and local level by the COMETT Information Centres, many UETPs and coordinators of major projects
- surveys and analyses of particular areas, conducted with the support of COMETT, such as the sectoral surveys
- documents setting out which COMETT projects have been accepted and what types of outputs have become available, such as the COMETT Compendium
- guidelines and tools, developed by experts and working groups, aiming to assist project

coordinators and other people involved in Comett projects (examples: use of housestyle in training materials, copyright, quality assurance, marketing, ...).

A list is provided in Annex 3.

An important mechanism for the provision of information, exchange of experience and receipt of feedback has been the organisation of a varied range of meetings and conferences. There have been five major COMETT conferences during COMETT II (Amsterdam, Glasgow, Aalborg, Antwerp and Bonn) with attendance varying between 200 and 500 participants. Each of these conferences covered a specific overall theme of relevance to COMETT, allowed the Commission to report on progress and receive feedback from project coordinators, and offered a platform for people to learn from each other, to discuss areas of common interest, prepare new projects and promote the products developed.

In addition to these major conferences, a larger number of meetings, workshops and smaller conferences has been held and sponsored in the course of COMETT II. Part of these were funded in the framework of the Positive Actions initiative (cf. Section 1.3.5 above), such as conferences on student placements and sectoral workshops. COMETT has also been present at events organised by related European education or R&D programmes. Two informal discussion meetings with Commission staff, COMETT Committee members and the Expert group were held in the first years of the programme, for the discussion of themes of general policy and strategy.

A.4.3 Monitoring of the programme

The monitoring of the COMETT Programme and the projects supported by the staff of the European Commission and the COMETT Office is complementary to the external evaluations carried out. The main purpose of this activity is to ensure that only high quality projects are being funded, that contractual agreements are respected in view of reaching the objectives of the programme, and that data and information is gathered which can be fed back to the programme management.

To this end, a number of procedures and activities have been developed. In order to ensure transparency, at the beginning of COMETT II a Vademecum was drafted and widely disseminated. This Vademecum not only described the objectives and organisation of the programme, but also gave much detail on the selection criteria for projects. For every Call, a special complementary Application Package clearly indicated to promoters what was expected - and what they could expect. Through this information effort, the way was paved for objective monitoring at later stages.

A second crucial aspect were the selection procedures. Simplified, the following pattern was adopted:

1. Initial screening and assessment of the applications received by the Commission, with the support of the Technical Assistance Office. This preselection took place on the basis of criteria given in the Vademecum and the Application Packages.
2. Assessment of projects by the COMETT Experts Group, as to content, approach and added value; soliciting of views with other Units in the Commission for whom the projects could be of relevance.
3. Submission of a draft list of projects to be accepted for discussion with the COMETT Committee and the COMETT-EFTA Joint Committees.

4. Final decision on projects selected by the Commission, taking into account the views expressed by the Committees.

When projects were approved, a contract was made, indicating the conditions for support. In many cases, 'technical recommendations' for project improvement were issued. Reporting obligations were also included in the contract. Reports had to be produced at the end of each contract-year, and for major projects sometimes also at interim stages. All reports were analyzes as to content and use of support; the information gathered has been used for the Annual Reports, as an input to the external reports and for the large number of studies and reports produced about COMETT (cf. Annex 3).

For the Pilot Projects supported under Strand Cc very specific procedures have been developed. For each Pilot Project an external Project Advisor was assigned, high quality European experts familiar with COMETT. The Project Advisor had the obligation to visit the project regularly and report to the COMETT Project Officer after each visit to the Pilot Project. A tripartite relationship has been developed between the project coordinator, the COMETT Project Officer and the Project Advisor. When renewing contracts - after the annual report - the Commission gave the Project Advisors the opportunity to formulate a number of recommendations. Overall, this process was resource-intensive but proved to be beneficial in assuring the good development of the Pilot Projects.

In a number of cases - if there was a suspicion of difficulties with the progress of the project - there have been formal project reviews. This has been the case for a number of UETPs and several Pilot Projects. For such reviews use was made by the Commission of the experience of Comett Experts and Project Advisers.
It must finally be recognised, however, that the very large number of projects supported by COMETT did not allow a comprehensive animation and monitoring programme involving all projects to be undertaken on a regular basis. This has only been possible for the Pilot Projects and, to some extent, the UETPs.

Annex 2

COMETT II

The Final National Evaluations of COMETT

Synthesis of Member States' Reports

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INTRODUCTION

In the context of establishing the Final Evaluation Report for the COMETT II Programme (1990-1994) required by Article 6 of the Council Decision 89/27/EEC[1] of 16th December 1988, the European Commission is examining the ways in which the participating States are supporting higher education - industry co-operation and contributing to the implementation of the Programme. Towards this end, the participating States were requested to undertake a final National Evaluation of COMETT II. They were provided with a framework of questions to which these National Evaluation reports should respond.

This present report is an analysis of the National Evaluation Reports[2]. Section A presents an examination of the extent to which COMETT II has fulfilled the objectives of the Council Decision. Section B provides a horizontal analysis, across the responses of participating States, for each topic in the framework of questions. Appendix 1 provides a synoptic table for each participating State indicating, in summary, its response to each question posed in the Commission's framework[3]. The Synoptic Tables were circulated to National Delegations and comments and additional material received. The Final Report was submitted to the Commission in February 1995.

There is, however, one major methodological difficulty in National Evaluations. In only one, perhaps two cases[4], is it clear whose views -firm, student, higher education institution (HEI)[5], UETP, government - are being presented. These two Evaluations expose a wide variation in actors' perceptions of the success of COMETT II. These two cases apart, the Evaluations are largely presented as a set of already synthesised views on the Programme. This serious difficulty also underlies the present report. Equally, the analysis and information within this report is based on and explicitly confined to that provided by the Final National Evaluations.

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[1] Council Decision 89/27/EEC of 16th December 1988, OJ n° L 13/28 of 17.1.1989.

[2] Four of the Final National Evaluations were not available on the 31st. Dec. 1994. In these cases, their 1993 National Evaluation was used as a substitute for initial analysis in Section A and B. National Evaluations which arrived subsequently were entered into the synoptic tables and important points integrated into Sections A and B.

[3] These synoptic tables were circulated to national authorities for verification and correction. During this activity, in some cases, sections of the synoptic tables which lacked information were completed by the authority. Again, as appropriate, this information was integrated into Sections A and B.

[4] This is the UK. The different actors' viewpoints can also be seen in the Belgian (Fr) Evaluation but with less consistency. These are also the only two quantitative Evaluations.

[5] For consistency, universities, polytechnics, grandes ecoles, and other forms of third level education providers are referred to as higher education institutions (HEIs).

EXECUTIVE SUMMARY

This report is an integrated summary of the 18 Final National Evaluation Reports provided by participating States in the European Commission's Task Force on Human Resources' COMETT II Programme for co-operation between Higher Education Institutions (HEIs) and industry regarding training in the field of technology. This report is in three sections. Section 1 examines the fulfilment of the Council Decision establishing COMETT II as seen through the Final National Evaluations. Section 2 provides an overall synthesis of the Evaluations. Section 3, the appendix, provides a summary of the main points of each individual National Evaluation.

Fulfilling the Council Decision

COMETT II has improved the contribution of advanced technological training through its incorporation and employment in 1) the promotion, development and acceptance of experiential learning and praxis associated with industrial placement by higher education in industry, 2) the improvement of the quality of courses and widening their availability, 3) the development of local and regional higher education / industry co-operation interfaces and the creation of a European level interface, 4) the advancement of economic and social cohesion within Europe.

COMETT II has fostered joint development and the optimum use of training through 1) the integration of industry into the joint development of courses, 2) the improved utilisation of technical training as an integral part of the technology transfer process and 3) improving the calibre and accessibility of training.

For SMEs, through student placement activities, COMETT II has made an important and direct contribution to their technical and economic development and their integration into the wider European market. Short courses are also mentioned, but much less consistently.

No comment was made on the role of COMETT II in developing equality of opportunity.

COMETT II has provided major European value added through its development and internationalisation of placement activities. In addition, it has improved, and in most instances created, international networks dedicated to improving higher education / industry co-operation. It has also had a strong integrative and cohesive effect across European higher education and advanced technical training.

At a General Level

The major contribution of COMETT II to the higher education / industry debate has been to draw attention to the benefits to be derived from transnational co-operation in the area. It has also contributed to improving the debate on high level technology training and qualification in industry generally. However, in the latter two areas, in States in which the debate was already well developed, COMETT was marginal.

COMETT II's major operational success has been in the European value added which it has brought through the formalisation and acceleration of transnational student placement activities and, to a lesser extent, of HEIs' technical training development and delivery.

COMETT II's has contributed to European cohesion through its direct and catalytic effects in higher education / industry co-operation, student placement and industrial technical training development in the less favoured regions of the Union and other participating States.

COMETT II has had little or no influence on national policy outside perhaps Greece and Portugal. Although, a number of States indicated that the policy debate had been "Europeanised". At a regional level, its influence has depended on the relationships established with other regional bodies by and on behalf of the particular UETP.

There has been a good synergy with national and regional activities. COMETT II is sufficiently flexible and sensitive to subsidiarity issues to adapt to local needs. However, there is some concern that its effects may be constrained only to those actors directly involved.

The main overall impacts of COMETT II have been a contribution to 1) The Europeanisation of HEI institutions, curricula and activities, student culture and enterprise culture, commerce and technology, 2) Regularisation and systematisation of international student placements, 3) The improvement of the quality of high level technical training provision 4) The improvement of higher education / industry institutional culture and interface structures at a regional, sectoral, national and European level.

A number of points have limited COMETT II's impact 1) It has had a relatively small budget, 2) In regions where the higher education / industry relations are well developed, its impact is sometimes limited to Europeanisation of activities, 3) In some States, Authorities themselves have made little attempt to exploit the Programme.

Turning to the UETPs

The main contributions of the regional UETPs have been 1) The development of a local / regional network of HEIs, technology and training related institutions and enterprises and 2) the integration of this local / regional network, along with those of other regions, into the first operationally effective trans-European network for information, student and staff mobility, and training development and delivery in high level technologies.

However, the regional impact of UETPs has been variable. There are indications that its added value has been greater in Less Favoured Regions. There are also indications that its effectiveness has depended on its institutional location: greater within a technology transfer setting, weaker within a solely training or student mobility setting. Their flexibility has been important in their acceptability and subsequent development.

Many regional UETPs have had major difficulties in undertaking effective training needs analysis (TNA). Some question their direct, enterprise level role in this area.

All recognise the effects of UETPs in stimulating a transnational outlook in HEIs (on training methodologies, teaching systems, etc.) and firms (European dimension of technology / R&D / training / markets, etc.)

Sectoral UETPs have contributed more directly than regional UETPs to technology transfer and training development to a better defined, more homogeneous network. There is no judgement, however, on whether regional or sectoral UETPs are "better" for overall COMETT II activities.

The major strengths of the UETPs have been their structured European and local / regional networks of partners. The major weaknesses have been their poor financial structures and the difficulty in gaining industrial involvement in their activities.

Turning to Mobility Activities

The student mobility activities have been the major success of COMETT II. For firms, they have brought a European dimension and potential technical and commercial contacts, often providing SMEs with their first contact with European programmes. For students, they have brought languages, cultural and technical broadening and better professional prospects. For HEIs, they have brought new teaching approaches and potential technical contacts. Overall, they have contributed to a more flexible and better integrated and trained European technical labour market.

Placement policies and practices have changed, particularly in firms, with greater regularisation in the acceptance of students and systematisation within their placement period reported. HEIs seem to have moved at a somewhat slower pace.

Turning to Training Course Development

Collaborative approaches between HEIs and enterprises have seen 1) Greater participation of firms in planning and developing courses, 2) Internationalisation of the development process, opening up new sources of expertise, 3) The development of flexible networks to create and deliver such courses.

The improvement in the quality has been the main benefit indicated. This improvement derived mainly from access to a wider pool of technical expertise, comparison of state-of-the-art in different regions, and a move from supply driven to demand- sensitive course development.

While the variety of courses offered and their accessibility to peripheral areas has increased, the quantitative impact of COMETT II courses has been small. There is also concern over the length of time taken to develop the courses.

COMETT II training initiatives are seen to complement national efforts in 1) The internationalisation of HEIs, firms and other institutions, 2) The development of higher education / industry interfaces, 3) The general improvement of technical training, particularly for SMEs.

THE COMETT II PROGRAMME

The action programme COMETT is the European Union programme on co-operation between higher education institutions (HEIs) and industry regarding training in the field of technology. COMETT II was launched by the Council Decision 89/27/EEC of 16th December 1988 and was in operation for five years, from 1990 to 1994. The first COMETT Programme, COMETT I ran for four years, from 1986 to 1989. COMETT II has been open to participation by EFTA States since 1990.

The objectives of COMETT II as laid out in its vademecum are :
"*To improve the contribution of, in particular, advanced technological training at the various levels concerned and thus the contribution of training to the economic and social development of the Community.*
To foster the joint development of training programmes and the exchange of experience, and also the optimum use of training resources at Community level, notably through the creation of transnational sectoral and regional networks of, in particular, advanced technology training projects,
To respond to the specific skill requirements of small and medium sized businesses,
To promote equal opportunities for men and women in initial and continuing training in, in particular, advanced technology,
To give a European dimension to co-operation between universities and industry in initial and continuing training relating to technologies and their applications and transfer."

Operationally and in brief, COMETT II consists of four strands :
- **Strand A :** University - Enterprise Training Partnerships (UETP) which are network organisations set up through COMETT to further transnational co-operation between HEIs and enterprises. They can be either sectoral or regional in nature.
- **Strand B :** Transnational Exchanges which provide grants for :

1) Students undergoing periods of from three to twelve months' training in industry in another participating State.
2) Persons who have completed their initial training, either enrolled at a HEI or after graduation and as a transition between study and a first employment, taking up placements of six months to two years in a business undertaking in another participating State for the purpose of taking part in an industrial project
3) Personnel seconded from HEIs and industry to industry and universities in another participating State for the improvement of training activities

- **Strand C**: Joint projects for continuing training in, in particular, advanced technology and for multimedia distance training :

1) Support for crash training courses with a European dimension in, in particular, advanced technology designed for the rapid dissemination - by and in HEIs and by and in industry -of the results of research and development in the field of new technologies and their applications, as well as for the promotion, particularly for small and medium sized businesses, of the transfer of technological innovation to sectors in which it was not previously applied.
2) Support for work on devising, developing and testing, at a European level, joint training projects
3) Support for distance learning utilising new training technologies and / or resulting in transferable training products

- **Strand D :** Complementary promotion and back-up measures.

SECTION A : FULFILMENT OF THE COUNCIL DECISION

This section examines, within the limitations of the information available from the Final National Evaluations, the extent to which COMETT II has fulfilled the objectives of the Council Decision (89/27/EEC) setting up the Programme. In brief, the objectives as set out in Article 3 of the Decision and elaborated in its Annex are :

1. Improving the contribution of advanced technology training to the economic and social development of the Community, including cohesion.
2. To foster joint development and the optimum use of training and in particular training based on Community research.
3. To respond to the specific skill requirements of small and medium sized businesses, including technology and skills transfer.
4. To promote equal opportunities for men and women.
5. To provide a European dimension to higher education / industry co-operation in training and European value added.

1. **Improving Economic & Social Development and Cohesion**

1.1 ***Improving The Contribution of Training***

The Final National Evaluations of the COMETT II Programme see COMETT as having been an undoubted success in terms of the improvement of technological training's economic contribution. This has been achieved most strongly through the development of the experiential learning practices associated with student placement. These practices have made a major contribution directly to enterprises, as well as through improved understanding between higher education institutions and industry. Traditional technical training's contribution has also seen an improvement in the quality of courses - mostly due to transnationalisation and industrial involvement - and their wider availability.

However, the limited size of the COMETT II budget, in comparison to States' private and public sector spending in the area of continuing education and training, has meant that the direct and catalytic effects of COMETT have not been as large as States might have wished. Also, in some States where higher education / industry policy and continuing training practices were more developed, COMETT tended to have less impact. Conversely, COMETT has had a very positive impact on cohesion within Europe, advancing the development of higher education / industry relations in the Less Favoured Regions.

1.2 ***Regional Structuring & Development***

The National Evaluations point to the COMETT II Programme as having provided a structuring effect leading to an improved potential for economic development at two levels; the local - regional level and the European level. At these two levels, the Programme has improved higher education / industry interfaces and relationships, brought new partners together and linked with and provided synergy with other national and European programmes.

At the local - regional level, COMETT has provided what one State called "a framework and a legitimate forum for public debate". Mostly through the activities of the regional UETPs, the local, and sometimes national, social and economic partners have been brought together to discuss and develop higher education / industry activities, particularly high level, continuing technical training. This has resulted in increased co-operation and co-ordination

of the activities of these mostly regional partners. The activities include working and liaising with and between regional firms and higher education institutions, undertaking training needs analysis, developing training materials, organising and / or delivering training, placing students, etc.

In some regions, COMETT UETP activity has also provided a useful and occasionally quite important contribution to policy development for continuing technical education and for higher education / industry relations. They have also occasionally undertaken wider based regional development activities which were not that closely linked to COMETT. The most important and the most common of these activities is that of a fuller-spectrum technology transfer facility, linked to EC Programme research, contract research and patent and licensing activity. Indeed, as we shall see below, there are some indications that UETPs which achieve (either by initial location or self development) such integrated activities are "most successful" and are the paradigm intuitively sought by most National Evaluations.

The extent of these structuring effects were, however, uneven. The main parameter of this variability seems to have been the already existing level of debate and higher education / industry infrastructure. Where it was well developed, there was less structuring action at a local / regional level. The second important parameter in the effectiveness was the institutional positioning of UETPs. The positioning was linked by various Evaluations to issues such as ability to obtain additional finances, credibility and effectiveness with industry and access to regional policy making. Indeed, some of the financial and other frailty of the UETP system may be associated with the positioning weakness.

1.3 ***Improving Economic & Social Cohesion***

COMETT II contributed to economic and social cohesion through three main effects.

1. The regional structuring effects discussed above were most evident in the less favoured regions of the Union. Again the activities of the UETPs have been central to the success of these processes. Where university / industry relations were least advanced, COMETT II contributed most to development, raising the institutional infrastructure towards current European views of best practice in the area.

2. COMETT II also has had a strong integrative effect, drawing all regions into closer working relationships with each other and providing the less favoured regions with concrete projects and modes of co-operation with the core EU economic regions. A concomitant of this integration has been the improved diffusion of technical knowledge and skills as well as best practice in the pedagogics of training development and delivery.

3. Social cohesion is terms of a wider understanding and respect of different participating States' culture was commonly indicated in the Evaluations.

2. Optimum Use of Training

2.1 *Linking research, training & technology transfer*

The core motivation of EFTA and EU Member States' interest in the development of higher education / industry co-operation is technology transfer : the transfer of science and technology developed in its higher education institutions into a domain in which it can be effectively commercialised so as to contribute to economic development. A second, but perhaps less unanimously proclaimed, motivation is to redirect activity in higher education institutions so as to be more responsive to wider industrial and commercial needs.

In terms of straightforward technology transfer, mechanisms for commercialisation can be seen as a continuum ranging from setting up campus or joint venture companies, to contract research, to consultancy, to simple information activities. The ability of higher education institutions to offer companies a full continuum of technology transfer mechanisms, along with the possibility of an incremental path along the continuum, is seen by many as important, if not essential, in effective technology transfer.

Until COMETT, high level technical training was a particularly weak link in this technology transfer continuum. As many of the National Evaluations report, COMETT has focused attention on the training element of higher education / industry co-operation and has improved its visibility, and indeed acceptability, in higher education institutions' interaction with industry. Here, COMETT has certainly contributed to the "optimal use of training" and to more effective technology transfer. In this context, the institutional location of UETPs may be of importance. There are some indications that UETPs which were based in a technology transfer organisation were more effective than those in a solely education / training location or those concerned essentially with student placement activities.

COMETT II has also contributed to "the optimal use of training" through the broadening of institutional, particularly higher education institutions', horizons through student placements. COMETT activities have given industrial placement an increased respectability in traditional universities, often through the bottom up pressure of lecturers and students wishing to avail of such placements. Allied to this, is an increasing recognition (in traditional universities' eyes) of the workplace as a legitimate place of technical learning as well as experiential learning as a valuable, even necessary, adjunct to academic studies. Such placement activities and changing attitudes in higher education institutions and industry provide for a firmer base for future technology transfer; in both directions !

2.2 *The Improvement of Quality*

Within the training course strand of COMETT II, the Evaluations point continually to the improvement in quality of projects, due to transnational co-operation and industrial involvement during their development. (Quantitative increases in courses available are rarely mentioned and seen as marginal in comparison to the volume of continuing technical education and training on offer. Increases in the variety of specialist courses, however, and their availability in peripheral regions are remarked upon.)

The Evaluations show clearly the value added to be gained in quality from working at a European level. The ability to access high level expertise across participating States, to compare methodological approaches, to see different delivery technologies in operation, to

examine different institutional settings, etc. all issue forth in a quantum leap forward in participants' quality horizons. Naturally, there is some increase in the organisational complexity, but it seems to be far outweighed by the quality improvement. Indeed, working at a European level is also reported as lowering the barriers-to-entry for course development and participation by providing a larger, consolidated European market accessible through the UETP network.

On the industrial side, the Evaluations indicate additional course improvements through the integration of industrial user requirements and concerns early in the course development process. Movement from supply-dominated to demand-responsive training has been one of the features of COMETT II developed courses. However, the quantitative Evaluations point to the improvement still necessary in higher education institutions working with industry in this area. Indeed, the need for development of a market information / development / delivery interface by higher education institutions, perhaps through work and co-operation with professional training organisations / consultants / technology transfer organisations is remarked upon under a number of guises.

One major criticism of this activity is the time required for course development. Firms are reported as only using COMETT II for non-critical, longer time horizon training. Equally, their was some question about UETP ability to undertake training needs analysis. The quantitative survey which addressed this issue indicated that firms saw UETPs as an interface for communicating needs to suppliers, rather than the actual undertakers of needs analysis.

3. SMEs and Innovation

The student placement activities of COMETT has been the major, direct contributor of the Programme to the needs of SMEs and industry more generally. For SMEs, the small scale and short time horizon of placements (compared to Pilot and Joint Training Projects) have suited their type of activity. Indeed, for some it has been their first contact with European Programmes and sometimes with Europe in a wider context.

Staff placements have been particularly useful to SMEs when they have occurred. However, numbers have been limited. Many participating States point to the need to rethink the nature of these placements if they are to develop into a significant activity for the development of SMEs.

From the Evaluations, it is difficult to judge the effects of training courses on SMEs. Certainly, the consistent mention of improvements in the quality of training developed will have had a positive impact on recipient SMEs.

There has been some concern expressed, however, at the closeness and integration of COMETT II's UETP and more traditional training activities with industry, and SMEs in particular. The two States which carried out a quantitative survey found a much lower interest and appreciation of UETP and training aspects of COMETT from industrialists than from higher education institutions or placements. There were complaints from companies of the long time horizons accepted in working with the large projects and indications that companies used such training only in a peripheral way. One evaluation questioned the extent of the use and reuse of such training material outside the very narrow development group. Equally, the remoteness of UETPs from direct contact with firms was seen as an issue.

4. Equal Opportunities

Within the written National Final Evaluations of COMETT II, there has been little or no allusion to or evaluation of the effects of the Programme in promoting equality of opportunity between men and women. This is not to say that there were no effects, either great or small, simply that they were not mentioned.

5. The European Dimension & Value Added

5.1 *European Value Added*

The major benefits of COMETT II are to be seen in the value added, over and above the initial financial investment, which it has achieved from its Europeanisation of activities.

Areas of value added include :

- Increased economic and social cohesion within Europe.
- The effective launch of a European-wide higher education / industry co-operation in technical training activities
- Broadening of the European technical and commercial horizons of firms through receiving students from abroad. And with this, a longer term integration of markets.
- A contribution to the development of a more integrated and effective European labour market for highly qualified, technical graduates.
- Innovative changes in higher education institutions based on contact with HEIs abroad.
- Improved course development from exposure to the state-of-art of technical and training expertise across a number of countries.
- Increased variety and availability of specialist technical courses due to consolidation of a European market.

5.2 *European Networking*

An essential developer of this value added, despite difficulties in industrial interaction, have been the UETPs. They have provided some of the support for both student placement activities and training activities. They are the visible legacy, structurally relatively stable, of COMETT I and II. They are the framework across which directed and enduring networking can take place. Regional UETPs' have provided a local / regional interface within the European network of UETPs. The Evaluations recognise this to have been carried out, more or less, well by all UETPs. UETPs develop, to some extent formalise and then maintain across Europe these networks of information and contacts on higher education institutions, continuing technical training and industry. Sectoral UETP have developed narrower, technology-defined, networks across Europe along which many of the value added activities discussed above have been put in place.

This dedicated UETP network across Europe was the "backbone" of most operational activities. For the first time, across Europe (and indeed within some participating States), a system of information and liaison dedicated to higher education / industry relations development was set up on an operational regional basis. Essentially, it provided the main lines along which information, training material and people were migrated across Europe.

5.3 *European Integrating Effects*

While UETPs may be the most visible European-wide structure deriving from COMETT, placement activities have had an important integrating impact on individual participating students, higher education institutions and enterprises. They have brought an increased European awareness to higher education institutions, motivating them to further broaden their co-operative activities outside their own State, obtaining benefits through comparison of ways of teaching, curriculum structure, and modes of working with industry.

Students have worked in another European culture, improved their language abilities and taken the first step in becoming part of a future, highly qualified European labour force. Firms, many of them SMEs participating in their first European venture, have become aware of other cultures, markets and sources of expertise. There is little doubt but that participating States see this area as the major success of COMETT II.

The development and delivery of COMETT II European-wide courses has had, perhaps, a less pronounced - at least less remarked upon - integrative effect, and perhaps one more restricted to the developers and delivers themselves.

SECTION B : THE HORIZONTAL SYNTHESIS

1. The General Overview

1.1. *Stimulating the Debate*

The main contributions of COMETT II to stimulating the higher education / industry debate have been :

1. To draw participants attention to issues involved in and the benefits to be derived from transnational co-operation in this area. All participating States recognise this and its operational implementation as the chief benefits derived from COMETT II.
2. To stimulate the debate on the technology training aspects of the higher education / industry debate.
3. To stimulate the debate on the academic nature of higher education and, what Germany terms, "its stronger reorientation towards the requirements of praxis in the professions and industry".
4. To contribute to a wider debate on training and qualification in industry.

However, for most States and many regions, the debate on higher education / industry relations was well developed before the advent of COMETT. This meant that COMETT was not saying anything particularly new within the context of purely national or regional debates. Thus, given COMETT's restrained financial resources, compared to national and regional training budgets, it could add little to the ongoing debate at these levels. Naturally, in States and regions in which this debate was less developed, COMETT II has contributed more to stimulating a discussion. In this context, it has had a positive impact on cohesion throughout the Union and other participating States.

This said, COMETT II has generally provided what Austria called "a framework and a legitimate forum for public debate". Even in the More Favoured Regions where the debate

was well advanced, it provided another channel for co-ordination and communication. In Less Favoured Regions, this framework was more visible and useful.

1.2. ***Fostering HEI / Enterprise Relationships***

In most States, the major contribution of COMETT II, the strongest and most consistent positive relationship fostered, has been the development and formalisation of transnational higher education / industry student placements. Firms, as did HEIs, explicitly recognised this most positive aspect of the Programme. To a lesser extent, the transnationalisation of training course development and delivery was also a recognised beneficial development from COMETT.

This said, COMETT II's contribution has varied depending on the preceding level of higher education / industry interaction. In States and regions with well developed interaction, Sweden for example, the effects of COMETT II have been largely confined to the actual participants, with relatively little wider catalytic effect. However, even in such developed regions / States, COMETT II has been linked to developing particular aspects of their structures. For example, the non-technical HEIs in Finland, or the hogescholen placement system in the Netherlands. Although, in such cases, it has had a supporting rather than a leading role.

These limitations are in contrast to other States / regions with less developed higher education / industry interactions. In this situation, COMETT has had a much wider and more profound effect. Here, COMETT has helped crystallise out and formalise a much broader range of higher education / industry relationships, ranging from assisting firms in their first contact with Higher Education Institutions (HEIs), to instigating formal training needs analysis (TNA), to providing the first regional or national interface for higher education / industry interaction in the area of training, etc.

From the States which carried out quantitative surveys, Belgium (Fr) and the UK, there appears to be some difference among the various actors in the importance attributed to COMETT II in improving higher education / industry relations. Firms were least impressed. Only 17 % of Belgian and 36 % of UK firms felt relations were improved with HEIs. In the UK most HEIs surveyed were positive while, again in the UK, 70 % of UETPs were positive. This gradient of enthusiasm should be kept in mind when some of the more fervent statements on COMETT are read. It may be that some of the more qualitative National Evaluations are disproportionately informed by UETP inputs.

1.3. ***Influence in Formulating Policies***

In Portugal and Greece COMETT II's channels to national policy making seemed to be more direct and to have some policy influence. The placement of the Portuguese COMETT Information Office in the CESE - the government office dedicated to higher education / industry development - seems to have been particularly effective. However, for the most part, at the national level, COMETT has had little or no direct influence on formulating policy, particularly where higher education / industry co-operation is taken for granted. A number of States do, however, indicate that the debate on policy has been "Europeanised" through COMETT.

Nonetheless, a number of specific if rather administrative national level outcomes could be seen, such as The Austrian Ministry of Science and Research making better legal provision

for the recognition of COMETT II placements abroad and the Ministry of Social Affairs and Employment waiving work permit requirements for COMETT placements. In Luxembourg, COMETT activities have highlighted the lack of national co-ordination in the collaboration of domestic firms and foreign HEIs.

At the regional level, COMETT II has been somewhat more influential, particularly through the activities of the UETPs. In Norway, COMETT II has helped provide a framework for regional policy in this area, as well as being an instrument of its implementation. This influence could also be quite variable within a State. In the UK, for example, the specific relationship between the UETP and the local Training & Enterprise Council (TEC) could be of importance. In other States, the regional influence was small.

1.4. ***Relationships / Synergy with National / Regional Programmes***

There seems to have been a good level of operational synergy between COMETT II and national / regional programmes. National programmes seeking to promote international activities (Switzerland, Finland, Germany) find a natural partner in COMETT II. National programmes for internal training or technology transfer development such as the Austrian "Scientists for the Economy", the Danish "Act on Continuing Education", the Italian Law 67/1988 indicating 10 % of R&D to be spent on training or the Swiss national plan for developing continuing education in the universities and federal polytechnics or again the Norwegian technology transfer and training programmes, all find support in COMETT. Naturally, where there is no national programme or orientation, synergy cannot be said to exist, even though the Programme may be all the more useful. The very close development of COMETT and Portuguese policy in this area and allied areas through the national CESE is again worthy of note.

Even at a more general level than technology and training, Luxembourg's interest in developing their national firms' international activities finds a response in COMETT. In Ireland, the two sectoral UETPs have been established in areas of designated national S&T priority. In Portugal, the spread of UETP activities to other EU programmes was seen as a positive development, as well as the more direct synergy from working with national programmes. The provision of Government funds for either the development of UETPs (as for example in the Netherlands, Germany, Portugal and Spain) or courses (from Iceland's Training Assistance Scheme) also indicated a certain level of synergy was being achieved.

The Programme's synergy with regional activities has been strongly dependent on the activity of the local UETP. This is the position in the Spanish regions, particularly the autonomous regions with control over education and training. In Germany, Länder policies to Europeanise their HEIs has found a strong synergy with COMETT activities. In addition, the nature of the local regional development structure has been an important factor in the potential for synergy. In France, the close linkage between UETPs and the Regional Chambers of Commerce has been important. In the UK, the relationship to the work of the Training & Enterprise Councils has varied from region to region with more or less synergy. However, synergy with developing regional continuing education structures has been more uniformly strong in Norway.

Quantitatively, in Belgium (Fr) over one-third of COMETT participating firms had also taken part in similar regional or national programmes. In the UK, half the universities and about 70 % of UETPs were similarly involved. The variety and flexibility of activities within

COMETT has probably been an important element in this synergy, permitting each region / participating State to adapt the Programme to local requirements.

There can be, of course, some conflicts between COMETT and national or regional activities. This is the case in the clash of COMETT student placement with national, regional or individual HEI student placement where the ability of local industry to absorb students is limited. Equally, there can be some drift apart and loss of synergy over time. This was noted in the French Evaluation, where national and regional economic and political change could leave COMETT needing readaptation.

1.5. *Overall Impact of COMETT*

Participating States see the COMETT Programme itself as quite successful. However, in national terms, the overall impact of COMETT has been restrained due to the relatively small amounts of funding involved. The impact has been even more restrained in some participating States where higher education / industry relations were already well developed.

This said, the participating States point to the following positive contributions of COMETT :

1. *The Europeanisation of Activities*
This has taken place at a number of levels. HEIs have become more international not only in an institutional sense but also in terms of student culture (via the placements) and in some cases through curricular change. Some States indicate that it has been the smaller HEIs which have benefited most through using the smaller scale, easily accessible, COMETT activities as one of their first steps into Europe. Firms have benefited particularly from student placement which has opened up a wider European view of business and, in some cases, participation in new markets. At a national and regional level, COMETT's Europeanising effect has been more variable. It has, however, been particularly helpful to the EFTA States in gaining experience and understanding of the operation of EU Programmes, as well as building a base for future activities.

2. *The Impact of Student Placements*
This activity has had, perhaps, the most direct and strongly felt positive impact. For a number of States, it was explicitly the major benefit of COMETT. On the firms' side, it opened up new skills and a much greater awareness of the EU market. It provided direct information about other systems of education and training and of technical resources. It also increased industrial awareness of the benefits of graduate recruitment. For the student, it provided language improvement and a most valuable experience for their transition to working life.

3. *Improvement in Technical Training Provision*
COMETT has had a strong impact in orienting HEIs towards a greater role in continuing education and the need to market their services to industry. One State noted an improvement in TNAs undertaken.

4. *Improvement in Institutional Culture and Structures*
COMETT has had a positive influence on the development of not only the specific Higher Education / Industry interface but also the interface between all parties involved in sectoral training at a regional and sectoral level both through projects and UETP activities. In addition, the UETPs have improved the transparency of EU Programmes. In some cases, the infrastructure created has linked into the Structural Funds as well as providing the structure

to participate in future Programmes.

5. *Other Impacts*

The impact and use of COMETT in Norway seem particularly interesting in that it explicitly formed part of a larger "Technology transfer and training" activity, rather than, more commonly, part of a continuing education and training effort. This seemed to increase the catalytic power of the Programme. However, other States did stress the links to R&D activities and the general innovation element that developed from COMETT.

There were certain reservations about the Programme. States warned of the bureaucratic load, the need for further decentralisation and the need for better links to other programmes; particularly R&D Programmes.

2. The UETP Networks

2.1. *Contribution of Regional UETP Networks*

Participating States see regional UETP's main contributions along two axes of regional development :

1. They have developed information / organisational / management interfaces between HEIs, State and other institutions involved in regional and national development (particularly, but not exclusively in education and training) and domestic enterprises at a local level. This has taken place through information events, workshops, training courses, projects, etc. In particular, they have acted as information and management structures for EU Programmes. In the Netherlands, COMETT has assisted in a wider role in industrial cluster development strategies. In some States, such as Norway, UETPs, as a group, have managed to develop some activities at the national level

2. Their most acclaimed contribution has been then to integrate the above activities with similar and parallel activities in the regions of other participating States, forming international co-operative partnerships. UETPs have provided not only international training and placement activities but also as Spain states "an international vision on technology training". Ireland points to their effect in internationalising purely regional projects.

The primacy of the UETP's contribution as the development of the trans-European interface seems to hold for both regions in which there is already a strongly developed higher education / industry interface, as well as the less experienced regions. The latter regions, of course, have benefited to a relatively greater extent from the UETP's effect on domestic infrastructure. However, within a participating State, the effectiveness of UETPs could vary greatly from one region to another. Italy, for example, emphasises their effectiveness in the South.

The Danish Evaluation differentiates between the objectives of two types of institution which housed the UETP :

1. Institutions where the objective was to transfer R&D to industry. Here, there has been a direct working contact with local industry. This has improved the perception of HEIs' graduates, created interest in HEI research and researchers and opened effective channels for firms to HEIs.

2. Institutions whose prime objectives were research and education. These have had more focus on student placement but also more difficulties due to the lack of a stable structure of industrial involvement. (Other parameters of such UETP variety are discussed in Section 2.5.)

The contribution of UETPs can go well outside their traditional "Technology training and Placement" activities, as in Portugal, where they have been used as a base for Business Innovation Centres and in one case transformed into a technology transfer consortium for SMEs.

The generally positive attitude to UETPs must however be tempered in noting, as does Sweden, that their contribution outside the HEIs and companies directly involved may be small. This message is further reinforced by the quantitative data from the Belgian (Fr) survey which indicates that only 30 % of firms saw UETPs as giving value added as against 42 % which saw no added value. The UK firms were somewhat more positive in judging the impact as worthwhile within their own company, but still felt the overall impact of COMETT was small.

2.2. *Articulation of Industrial Needs*

Participating States' Evaluations point to this as being a very problematic area for regional UETPs. In the Belgian survey only 9 % of firms were positive towards UETPs' training needs analysis (TNA). 35 % were expressly negative. (24 % of firms saw the UETPs' role as a conveyor of information, linking firms to HEIs and advising on EU projects as opposed to undertaking direct intervention) Similarly, the Danish Evaluation does not see the regional UETP as an appropriate body for TNA; it was more an in-company activity. One of Norway's UETPs indicated that they assisted firms in TNA but did not undertake it themselves : "help towards self-help" as they put it.

Most UETPs, however, seem to have carried out TNA as their main approach to assisting in the articulation of industrial needs. How effective this work has been is questioned by the finding that 54 % of UK UETPs themselves thought little had been achieved in this area Over half the HEIs thought little or nothing had been achieved in this area. However, Austria, whose UETPs carried out a number of very specific TNAs, indicates that the work had a positive effect but was highly constrained by lack of available time and funding. Spain points to UETPs having acted as a sort of "clearing house", drawing existing studies together, defining methodological approaches, choosing training options, etc. as well as consolidating and articulating the demand from SMEs. Germany notes that the implementation of TNA has been the foundation for concepts of a regional continuing education strategy.

As opposed to traditional TNAs, the Netherlands indicates the use of a system of "round tables" as an effective method of making known industrial demand requirements.

2.3. *Stimulating Transnational Outlook in Partners*

All participating States recognise the effects of UETPs in stimulating a transnational outlook among the partners. This has taken place along two main axes :

1. For HEIs as an exchange on training methodologies and teaching systems as well as contacts with firms abroad hosting their students.

2. For firms as wider access to the European training potential and a greater awareness of the European dimension of R&D and technology. A number of States, such as Spain and Ireland, indicate the specific benefit of the integration of SMEs into European programmes for the first time via student placements and the location of partners abroad. Such firms became much more aware of the potential benefits of collaboration in Europe, not only in terms of training, but also in R&D programmes and business generally. Both the UK and Belgian quantitative Evaluations bear out the other States' Evaluations. The Belgian Evaluation indicate that 57 % of industrialists and 78 % of students felt that the European dimension in the enterprise's culture had been improved.

In addition, UETPs have helped purely national projects to become European. This has led to the development of strong international networks of HEIs, institutes and enterprises around short courses and training projects.

The Italian Evaluation points out that UETPs have achieved this change in outlook through different modes of transnationality; some emphasising specific technological sectors, others involving a very broad spread of organisations from their region, while still others have concentrated on developing their HEIs as catalysts. In all, COMETT has contributed to "developing a collective transnational approach to education and training".

2.4. *Contribution of Sectoral UETP Networks*

The National Evaluations indicate that sectoral UETPs have had less identity problems than regional UETPs and have contributed, on average, more directly and in greater measure to technology transfer and industrial training development. Their clientele were seen as much better defined and, by and large, a more homogeneous group with more similar technical requirements. This and the more focused expertise of the UETP personnel have made technical development activities both more relevant to UETP activities and easier to undertake.

For similar reasons, the development of the industrial base of the sectoral UETP network has also been easier to construct. Some have managed to develop not only a strong network but to have become, to some extent, a voice for the sector in European level education and training issues. A number have also developed recognised European-wide training programmes and had, as Finland notes, a more visible impact on training. The Netherlands notes that such specialised, high level courses fit in better with the advanced education system. The UETPs have also become effective organisers of mobility programmes and co-ordinators of other non-training EC Programmes. However, the overall magnitude of their contribution should not be over exaggerated : COMETT is a small programme. Equally, Evaluations do not make any overall judgement that sectoral UETPs are better or more valuable to COMETT objectives that regional UETPs.

2.5. *Major Strengths and Weaknesses of UETPs in Participating States*

The strengths and weaknesses of UETPs as seen by the participating States' Evaluations are :

Strengths :

1. The European dimension of UETPs is their greatest strength. This European dimension ranges from UETPs direct contact with the Commission and knowledge of Commission Programmes, to expertise in applying for and managing European projects, to their core

strength as part of a well structured, dedicated European operational network. The UETP may also benefit from links to other EU networks and information sources.

2. The second axis of UETP strength lies in their network of domestic, regional or sectoral members. UETPs now have an accepted role (some much stronger, some much weaker) in the domestic higher education / industry interface and indeed in the wider skills supply / demand interface. The initial positioning of the UETP is quite important in this context. Strong positioning includes links to HEI Extension Centres (Austria), contract research institutes (Norway), Regional Chambers of Commerce (France), etc. The benefit of supplementary funding can be a function of the strong positioning and / or regional or national network created. The full geographic coverage of a State by UETPs was also seen as important in some Evaluations (Germany, Greece). Some UETPs have moved towards becoming regional development agencies (Italy, Portugal).

3. At a lower level, UETP strength resides in factors such as the dedication of its managers, its well motivated personnel, its reputation, its independent status as a base for democratic partnership (Austria), its technical credibility, its links to R&D programmes, etc. The recent introduction of recruitment activities (e.g. Belgium (Fr)) has improved the position of some UETPs.

Weaknesses :

1. The weakness and insecurity of the financial base of most UETPs is seen as the main weakness. This entails a sub-critical size for the UETP and limited numbers of staff as well as difficulties in realistic, long term planning. The near total dependence of some UETPs on EC funding and their inability to generate other funds further compounded this insecurity. This said, part of the problem may be self-inflicted; as Germany notes, "*Of the 27 UETPs in Germany, only one has a legally independent status : a prerequisite for self-sufficiency.*"

2. The lack of involvement by industry and difficulty in retaining industry's interest in projects is cited as the other core difficulty. These issues can be compounded in the Less Favoured Regions by the weak industrial base and the non-innovative, traditional nature of many companies. SME involvement is a particular difficulty. The UETP itself may have little actual technical or industrial knowledge.

3. The HEI base may also cause problems in some regions. This could arise when the HEIs are weak or have a weak technical base. Some HEIs are mainly interested in student placement, with little participation in training development.

4. Other weakness include the poor development of networks and poor co-ordination with other national and local training bodies (Italy), the turnover of UETP staff, over large regions to be covered (Netherlands), a disinterested attitude by central government (Denmark, Ireland), etc. Poor planning, a lack of marketing strategy, and the lack of time for self-training in a complex area were also stated as weaknesses seen in some UETPs. The time required to become known and accepted is also a difficulty. The fact that there are few quantitative indicators of UETP performance available was seen as a problem in upgrading their work.

5. An additional weakness in EFTA countries is that their UETPs currently cannot access as easily the synergy between COMETT and other EC Programmes in comparison with EU Member States. This difficulty will pass.

3. Mobility & Exchange Actions

3.1. *Contribution of Mobility Actions to Innovations in HEI / Enterprise Co-operation*

Nearly all Evaluations are positive on the contribution and effectiveness of the mobility actions. A number of participating States point to the mobility programmes, essentially the student placement element, as **the** major success of the COMETT programme.

The placement activity is seen as having a direct and beneficial effect :
1. On enterprises, often involving SMEs for the first time in a European programme. Austria reports a) the adoption of a "placement culture" by enterprises, providing better facilities, supervision and professional guidance for students and b) The systematisation of placements on a project basis with a clear work plan and an improvement in the possibilities of academic recognition for the work. France and Germany indicated that they have been a base for new commercial relations and a base for future partnerships, particularly in RDT Programmes.

2. On the students. The Spanish Evaluation sees students who have undertaken such placements as being themselves potentially better innovators in industry. Increased language abilities and cultural understanding in students as well as improved professional prospects are widely reported in the students.

3. On HEIs. The COMETT placement activity is reported as having assisted in updating teaching methods in HEIs and catalysed the development of placement requirements and mechanisms. Spain indicates that COMETT has provided a comparative aspect to European higher education / industry co-operation as well as bringing the debate into a labour market context through a concern for professional placement. One Dutch UETP had set up "Local Strategy Committees" to oversee exchanges and influence course content.

4. More generally, placements have helped in developing new modes of technology transfer in knowledge, techniques and models. They are also seen as providing a new form of human resource updating and recycling.

Only two participant States indicated strong positive experiences with staff placements : Austria and Finland. Denmark noted that when they did occur, they were very successful. However, France indicated that they were not successful and should be rethought. Germany pointed to legal difficulties, problems with the content of practical training, financial barriers and the long release period for employees.

In the quantitative Belgian (Fr) survey, placement drew a nearly 100 % positive response for enterprises, students and HEIs. Smaller HEIs used placements as a first step in internationalisation. In the UK, two thirds of enterprises felt that they had benefited from having the placement; breaking down national barriers and opening up possible marketing opportunities as well as the specific technical element contributed.

3.2. *Modification of Policies and Practices to Facilitate Exchanges*

In participating States where industrial placement is a well established activity, COMETT has had a positive, operational effect rather than playing a strategic / innovatory role in the modification of policies and practices. In the Netherlands, for example, attention has moved on to operational issues such as housing, the structuring of the contacts (a policy of

networking instead of informal contacts) and the planned provision of student intern projects as part of the operation of businesses. Similarly, France points to the normalisation and systematisation of placements abroad and the specification of quality parameters. Luxembourg and Norway point to similar trends. In the same vein, many Evaluations report the change in enterprises' attitude to placements. Belgium (Fr) indicates that industry has moved from looking on placements as "a favour" to being an equal contract with both sides gaining : enterprises now propose regular placements. Similar trends are noted in Finland.

Some participating States have instituted legal changes. Austria has introduced legal provision for the academic recognition of COMETT placements abroad and waived domestic work permit regulations for placements. Sweden and Norway have simplified work permit and residence procedures.

Despite this generally positive position, some Evaluations point to little real change, particularly within the HEIs (Spain) and difficulties based on a youth culture with poor foreign language abilities and social pressures on women (Italy - the South), continued rigidity of HEI curricula and lack of recognition for placements. Ireland and Iceland report that the moves of the HEIs to formalise and recognise placements have been much slower, with informal arrangements persisting . However, three quarters of the UK UETPs report modifications such as increased flexibility in course design, assistance to lecturers in visiting students abroad, insurance policies, better language preparation, etc.

4. Training Course Development

4.1. *Generating Innovative Modes of Collaboration in Training Course Development*

The major areas of collaborative innovation have been :

1. The preparatory work where there is now a greater participation of enterprises in planning and developing courses (e.g. Sweden). This has occurred both through direct enterprise involvement and through the development of platforms and study groups with industrial involvement. Such developments are helping to move training development from being supply driven to demand driven (e.g. Netherlands).

2. The internationalisation of the development process which has opened up new sources of training provision, expertise and paths for collaboration. This internationalisation has also brought a comparative aspect to national systems of training development, highlighting differences in approaches, including different modes of collaboration. Courses have also been developed from the beginning for a European market and with a European dimension (e.g. Norway).

3. The development of flexible networks to undertake such work. Here the UETP network has played an important role. Denmark notes "the broker" role of UETPs in presenting interesting European courses to industry and recommending specific EU HEIs for particular tasks. However, Denmark also notes the need for improved and innovative distribution channels for non-professional training organisations, such as HEIs.

4. Some Evaluations report particular innovations with collaborative implications such as the consistent use of TNA for planning (Spain) and the development of interactive TNA (Austria), the development of an IT network now looking towards in-situ training for industry (Sweden),

new links between training and R&D (France, Norway), etc.

Denmark notes differences in effectiveness based on project management :

- Projects for particular organisation / network needs have worked well, but have been difficult to market afterwards.
- Educational institution run projects have faced weaker demand than foreseen.
- Consultancy company-based projects, founded on their own expertise, have been most successful.

Despite the above developments and their demonstration effect to others, the sample of UK enterprises surveyed showed that 70 % thought COMETT provided little or no innovation in this area. UK regional UETPs were more pessimistic : only 16 % thought that some or a great deal had been achieved. However, to the same question 57 % of sectoral UK UETPs thought some or a great deal had been achieved. Equally, in the Belgium (Fr) survey, 45 % of responses saw innovative effects in COMETT course development.

4.2. *Contribution to Improvement in Supply of Technology - Related Training*

Most participating States think that the COMETT contribution to improving quality of supply has been more marked and perhaps more important than the contribution to quantity. Quality improvement has come about largely through the transnational opening up of course development to a wider pool of expertise across Europe. Course developers can now compare much more easily their own methods with state-of-the-art in a number of States. Regional poles of competence in Europe have become better known. This opening up has also been important in focusing attention on quality assurance in delivery, to the extent that the Netherlands reports the appointment of quality inspectors to a particular course. Denmark also points out that training was changing towards in-company and tailor-made training; some UETPs were managing to follow this trend. COMETT has also been bringing high level R&D results to a technical audience. However, the French Evaluation points out how long it takes for the courses to be developed. Also the Belgian (Nl) Evaluation points out that there has been no systematic evaluation of quality, just the assumption that better correspondence to industrial needs implied quality.

Improvement in the quantity of training seems to have had a much more limited impact. However some States report a greater variety of courses now available. Austria notes that internationalisation has also lowered the threshold to organise or to participate in courses. Ireland finds that COMETT courses help avoid trainees travelling abroad for training. In the context of this increase in quantity, another State points out the leverage effects of COMETT in obtaining moneys for training course development. Finally, within the context of improving the supply, Italy and Ireland note the acceleration in the use of open, multimedia and distance learning activities but Iceland still finds it insufficient.

The quantitative Belgian (Fr) Evaluation indicates that 68 % of respondents felt that the quality and level of training had improved, 57 % that a European dimension had been added and 49 % that there was access to a much greater richness of information. However, it was pointed out that COMETT was minuscule in terms of national continuing education and training spending.

4.3. ***Complementing / Strengthening Training Initiatives at National Level***

Participating States Evaluations are quite varied in their interpretation of this question. The most frequently mentioned complementarity with COMETT is to be seen in efforts of HEIs, firms and other institutions to internationalise activities (Both parts of Belgium, Netherlands, France). Germany points to its contribution to the realisation of an EU-home market, as well as to specific plans in areas such as environmental protection.

The next most frequently mentioned complementarity involves the improvement of the higher education / industry interface. Austria notes complementarity with its Extension Centres as well as the possible founding of Fachhochschulen with obligatory training placements. Italy notes its catalytic effect in the area generally.

Other States point to complementarity in the area of improving training; SME training in particular, but also, more generally, the regional authorities' own training efforts. COMETT also has a complementary "gap-filling" function in servicing a high level specialist training needs. In the UK 59 % of firms felt that COMETT complemented their own training activities, while sectoral UETPs were more positive on their contribution than regional UETPs. However, Sweden and Denmark note that at a national level, the effects of COMETT had not been that large.

4.4. ***Other Points Raised***

"Other Points Raised", by and large, capture the specific conditions affecting the operation of COMETT in the particular participating State and specific information from the Evaluation, especially that of Belgium (Fr). However, a number of themes do arise mostly related to participating States' wishes towards future EC programmes in the COMETT area.

Retention of the COMETT Identity

A number of participating States would like to see the COMETT identity retained. Over the last decade, it has built up a brand name for quality and a certain type of activity among HEIs and firms. This should not be lightly thrown away. Germany calls for a specific programme component under LEONARDO.

The Retention and Development of UETPs

Again, the infrastructural development achieved by the UETPs should not be thrown away. Funding should be guaranteed either directly or through task oriented co-financing where the UETP would take an overhead on tasks and programme elements administered. The UETPs are too valuable as a meeting ground for HEIs, research institutes, industry and government to be let disappear. Generally, some stability in their funding was sought.

A structured extension of their remit to R&D functions as well as their extension into Central and Eastern Europe in co-operation with TEMPUS was suggested. A clearer separation between sectoral UETPs (course production and supply) and regional UETPs (organising demand at a local level) was suggested by one participating State as a way of developing an integrated production and delivery of COMETT type technical training.

Co-operation with other Programmes

Participating States see the possibility of enhancing both future COMETT activities and other EU Programmes through increased co-operation between such Programmes. Perhaps most obviously, a better vertical integration / synergy is sought between COMETT type activities

and 1) upper vocational training activities as seen for example in parts of FORCE and PETRA and 2) Doctoral / Postdoctoral training activities as seen in the Human Capital and Mobility Programme. Horizontal co-operation / synergy might also be found in supporting and working with other S&T Programmes of the 4FP. In addition, it is suggested, particularly in the context of working with SMEs, that much might be learned from the experience of the CRAFT Programme.

Programme Development

A number of suggestions are made for the improvement of COMETT type activities. These include 1) Greater flexibility and speed in dealing with applications, 2) Greater flexibility in the mobility programmes. The staff mobility programme is singled out : it requires shorter placement periods. 3) A system of sanctions and after-the-fact reporting would improve the effectiveness of the placement activity, 4) A COMETT Certification System for students was also suggested. A first, easy, non - controversial step might be a participation certificate.

SYNOPTIC TABLES

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FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

AUSTRIA

	Subject	Summary Response
1.1	Stimulating the Debate	Yes, particularly the UETP system.
1.2	Fostering University / Enterprise Relationships	Specific working relations stimulated by COMETT include: Major increase in transnational student placements along with improved project oriented design of placements and better academic recognition. Transnational higher education / industry personnel exchanges which did not exist at all before COMETT Enrichment of the national market for advanced training technology through the international scope and European dimension of courses developed.
1.3	Influence in Formulating Policies	The Ministry for Social Affairs and Employment waived work permit requirements for COMETT students. The Ministry for Science and Research provided financial support and made better legal provision for academic recognition of COMETT placements abroad.
1.4	Relationships / Synergy with National / Regional Programmes	COMETT complements the regional and national programme "Scientists for the Economy" which promotes higher education / industry staff exchanges. Flexible secondment provisions for university staff have been extended to COMETT Bc exchanges. Co-funding of national and regional COMETT projects has been forthcoming due to their contribution to improved Austrian training activities
1.5	Overall Impact of COMETT	COMETT has enhanced the international dimension of training. It has linked HEIs and industry, supported the development of continuing education at HEIs, catalysed the development of TNA, provided experience in the international management of programmes and projects, improved the institutional management of higher education / industry interfaces, extended networks to other forms of co-operation, increased industry interest in highly qualified personnel, etc.
2.1	Contribution of Regional UETP Networks	The provision of a regional platform for training & technology issues while raising regional and national consciousness of these issues. The provision of partners and of a European dimension to technology training: they act as a regional focus of European initiatives. The integration of regional SMEs and other partners into European projects and issues. The provision of short courses and personnel exchanges as well as spin-off companies from such activity. Synergy of research and training. Motivation and sensibilisation to international technological development.
2.2	Articulation of Industrial Needs	Yes, but restrained by lack of experts with time and money. A number of specific TNAs have been carried out as well as constant evaluation of industry needs. Discussions on course concepts and marketing are organised.

AUSTRIA

	Subject	Summary Response
2.3	Stimulating Transnational Outlook in Partners	Yes, but at varying levels in the UETPs, through the active participation of European partners, placements and the influx of foreign students into Austrian firms.
2.4	Contribution of Sectoral UETP Networks	EuroLaser aims at the rapid dissemination of R&D results (currently restricted by lack of qualified personnel) by mobility activities, training and education. It has integrated and built upon regional, national and international networks and its members (researchers, developers, producers, consultants and users) have been active and contributed to all COMETT activities. It has carried out a " State of Art" Survey which will act as the basis for a TNA. It organises Summer schools. Its strengths are similar to sectoral UETPs. Its weaknesses include not yet having a legal status, members' heterogeneous interests, different levels of involvement of sectors and countries, lack of money and full time personnel, as well as difficulties caused by uncertainty of CEC financial support, etc.
2.5	Major Strengths and Weaknesses of UETPs in Member State	Strengths: 1) Secure, legal and independent status as a base for a democratic partnership, 2) High acceptance and good regional support and financial commitment of public and semi-public institutions, 3) Skills in managing European training projects, 4) Closeness to firms and technical credibility, 5) Links to other EC networks, 6) Links to universities and the strength of existing university "Extension Centres" in Austria, 7) Well motivated personnel and lean and efficient structure Weaknesses: 1) Weakness in linking COMETT to other EC projects with Austria as an EFTA member, 2) Lack of marketing and sales strategies, 3) Limited numbers of staff, 4) Some regions with weaker universities and technical studies base, 5) The time taken to develop a specific profile, 6) The lack of time for self-training for a complex area, 7) COMETT projects are too short to create an "international training philosophy", 8) Annual reduction of financial support, 9) Uncertainty in transfer to LEONARDO.
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	COMETT has brought 1) Systematised placements on a project oriented basis with a clear work plan and defined provisions for academic recognition, 2) Enterprises are adopting a "placement culture" and providing better facilities and professional guidance for students, 3) Bc exchanges provide considerable feedback and linkages between universities and enterprises. They are, however, very difficult and time consuming to organise, particularly for longer periods.
3.2	Modification of Policies and Practices to Facilitate Exchanges	See Section 1.3 for formal changes. Academic recognition of periods abroad has progressed well. Enterprises acceptance of students has become easier and more formalised.

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FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

AUSTRIA

	Subject	Summary Response
4.1	Generating Innovative Modes of Collaboration in Training Course Development	Yes, in developing projects together with potential users and international partners and with higher quality. Interactive TNA has also been developed. Multi-location delivery of courses.
4.2	Contribution to Improvement in Supply of Technology - Related Training	Improvement in the quality (more than the quantity) due to a wider exchange of expertise and views including, as a further quality factor, the opportunity to compare the state of art in different countries. Improved international marketing and access to courses.
4.3	Complementing / Strengthening Training Initiatives at National Level	UETPs have complemented university Extension Centres. The threshold to organise or participate in courses has decreased. Providing training for SMEs has become more attractive. In the future, it is envisaged founding Fachhochschulen with obligatory placements.
4.4	Other Points Raised	Austrian continuing and vocational training is quite developed and differentiated. Thus, "COMETT can only be an added value bringing in the European dimension... as a niche providing very specialised and/or transnational course offers." The Austrian Evaluations requested that; The decentralised structure of UETPs be developed and strengthened and greater flexibility and speed be imparted to applications, The scope of COMETT be reconsidered, either adhering more strictly to technology issues or broadening to all areas, COMETT should concentrate on SMEs as initially [illegible] Import some experience from the CRAFT Programme for SME's Obtain greater synergy from other TFHR and 4FP programmes There should be an early call for LEONARDO to avoid [illegible]

The Austrian evaluation indicated that "The statements and conclusions (of the 1993 evaluation) are valid and can be fully adopted". Thus, this table draws on both evaluations.

The 4 regional UETPs replies were provided in a disaggregated form in the Austrian National Evaluation. They are synthesised in this synopsis.

There is only one sectoral UETP in Austria. All its responses to the evaluation are synopsised in this section.

B F **FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME**

BELGIUM (French)

	Subject	Summary Response
1.1	Stimulating the Debate	
1.2	Fostering University / Enterprise Relationships	Only 15 % of enterprises felt they had changed their comportment towards universities. However, 40 % had used the work as part of a strategy of internationalisation. Firms thought COMETT should be much more widely promoted; it was too little known.
1.3	Influence in Formulating Policies	The Programme forms part of the ongoing debate.
1.4	Relationships / Synergy with National / Regional Programmes	35 % of enterprises had participated in national or regional programmes similar to COMETT. However, only 6 % indicated that they had linked the programmes.
1.5	Overall Impact of COMETT	96 % of those on placement and 80 % of those undertaking training were satisfied. The internationalising impact on universities (particularly small and specialised ones) was important. 54 % of enterprises thought COMETT had a positive impact on their internationalisation, 35 % on their technology, and 28 % on quality of work. Of enterprises, 32 % thought COMETT had a regional benefit and 18 % a national benefit. In total, COMETT made participants aware of the possibilities in Europe and the potential of international collaboration.
2.1	Contribution of Regional UETP Networks	Difficult to define. Stagieres were rather negative. At a regional level, 30 % of enterprises thought they added value, while 42 % felt that there was no added value.
2.2	Articulation of Industrial Needs	Only 9 % of enterprises were positive; 35 % negative. 24 % thought of the UETP as a help in conveying training needs to trainers. Industry sees the role of the UETP as an adviser in European projects and link to universities.
2.3	Stimulating Transnational Outlook in Partners	This is one of the strong points. 30 % of respondents felt more aware of the benefit of international partnerships, 37 % stimulated to participate in European projects. 57 % of industrialists and 78 % of students felt COMETT improved the European dimension in the enterprises' culture.
2.4	Contribution of Sectoral UETP Networks	Compared to regional UETPs, they are seen as better equipped to undertake TNA and work on mobility and recruitment (a new UETP service).
2.5	Major Strengths and Weaknesses of UETPs in Member State	Strengths: Provision of regular information, mobility activities and advice on European projects, responsiveness to requests and their role as a university / enterprise interface. Weaknesses: Not well enough known / poor marketing resources, poor abilities in TNA, little actual knowledge of the technologies.

B F **FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME**

BELGIUM (French)

	Subject	Summary Response
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	There was nearly 100 % positive response from industry, universities and students. Smaller universities, in particular, used placement as a first step in internationalisation and making themselves known in Europe. They were helped to bring their teaching up to date and offer more attractive possibilities to potential students. Staff mobility was under exploited.
3.2	Modification of Policies and Practices to Facilitate Exchanges	Industry moved from looking on placements as "a favour" to being an equal contract with both sides gaining. Enterprises now propose regular placements. Conditions of placements, work programmes and duration have improved.
4.1	Generating Innovative Modes of Collaboration in Training Course Development	45 % of responses were positive. The added value of the international dimension was very important. The innovative COMETT criteria catalysed innovative reshaping of projects including use of multi media and training of trainers.
4.2	Contribution to Improvement in Supply of Technology - Related Training	68 % of respondents indicated that quality and level of training improved and 57 % that a European dimension had been added to the enterprises culture. 49 % pointed to access to a much greater richness of information for course development, 46 % to better access to technologies and 40 % to improvements in work quality. COMETT improved not only quality but also variety of training offered.
4.3	Complementing / Strengthening Training Initiatives at National Level	The UETPs have worked with and created synergy with most institutions of economic and university life assisting in collaboration while also working on regional and national projects.
4.4	Other Points Raised	42 % of students found placements within a month; 87 % within 3 months. But this was the most difficult issue for the student. COMETT / UETPs should be more helpful. A listing of companies to contact in each country might be provided. Linking ERASMUS placements to a search for a future COMETT placement was suggested. Having students find their own enterprise might, however, be more effective and be a better match than that by COMETT / UETPs. Administrative formalities were a problem for students. 6-12 month placements were most effective. Clearer initial understandings of what was expected on both sides would be helpful. Universities are an important intermediary, but too often passive. Of the students, 78 % received funding from their enterprise; of these, 45 % received it as a complement to the COMETT award, but only 27 % as a salary. From 10-20,000 BEF/month was received by 42 % of the fund receivers. But such benefits were very variable as was the local cost of living and difficult to allow for in the planning. A COMETT certificate was called for.

Based on a mail survey with 85 replies out of 270 contacts for students and 94 out of 2270 for firms and universities. 75 % of institutions were Belgian.

B FL FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

BELGIUM (Flemish)

	Subject	Summary Response
1.1	Stimulating the Debate	There were already some organisations active in the improvement of university-industry contacts, but COMETT resulted in a better overall co-ordination and communication on the following levels: Organisations who were active as partners in COMETT projects Organisations who came into contact with COMETT information in an indirect way At the Flemish Ministries, the consciousness for the need of higher education-industry co-operation increased.
1.2	Fostering University / Enterprise Relationships	The COMETT application rounds proved to be a good tool to create co-operation (it is easier for partners to find each other around a concrete project). The number and internationalisation of higher education-industry contacts have largely increased. At the education side, especially the non-university higher education institutions improved their number of contacts.
1.3	Influence in Formulating Policies	On the government level, the impact of the COMETT Programme was restricted to the Ministry of Education and influenced some basic policy options taken: Growing consciousness of continuing education and quality of education Attention paid to higher education-industry co-operation Interest in European educational development.
1.4	Relationships / Synergy with National / Regional Programmes	The reports suggest that from a COMETT point of view it is easier to foster complementarity among different European programmes than among national/regional initiatives. The way the COMETT model operates makes it difficult to adapt to specific national situations. On the one hand, there is the example of a private organisation which organises continuing education in co-operation with HEIs and industry. Synergy with the COMETT programme allowed them to work on a more international level. On the other hand, it is felt that a lot of problems were encountered in the field of student exchanges, because of the fact that COMETT didn't take into account the specific Flemish problems in this field, nor the existing international student exchange initiatives.

BELGIUM (Flemish)

	Subject	Summary Response
1.5	Overall Impact of COMETT	The impact is greatest in the HEIs. The consciousness to co-operate was somewhat more difficult to stimulate in industry. Especially in the SMEs, the COMETT impact was rather small. Overall, and taking into account the economic situation, COMETT can be considered to be a moderate success. A lot of new links and relations were forged. However, COMETT did not succeed in creating institutional links with research programmes. The networks created by COMETT lead to a number of services in the framework of other European programmes. A recommendation for the future is to increase the co-operation and communication among different European programmes. It is noted that often the same players are in those different programmes. Given the actual level of financial support, a better link with regional programmes is necessary for the COMETT projects to survive. Parallel to tackling the industrial aspects of technology, it would be useful to pay more attention to the effects of cultural differences in technology development.
2.1	Contribution of Regional UETP Networks	The networking has two dimensions: 1) the regional basis and 2) the European COMETT network. Through the UETP, regional networks are in contact with the European network and with regional networks in other regions. The main tasks can be summarised as information dissemination and setting up of training projects. Partners could gain from the network on three levels 1) Content and technology 2) General level, TNA, etc. and 3) Administrative level making it easier to set up project proposals.
2.2	Articulation of Industrial Needs	
2.3	Stimulating Transnational Outlook in Partners	One of the most visible results obtained by the UETPs is the internationalisation of training activities. The UETP stimulated and assisted the projects.
2.4	Contribution of Sectoral UETP Networks	The impact of sectoral networks on the Flemish region is rather limited, whereas the impact of some Flemish partners on sectoral networks is big. In other words, the export of knowledge was bigger than the import. Sectoral networks are considered to be important, because they are more flexible in setting up training initiatives compared to the educational institutions.
2.5	Major Strengths and Weaknesses of UETPs in Member State	Strengths: Growing consciousness for the need of HEIC; impact on internationalisation of training initiatives: Role in stimulation of initiatives in difficult domains: Export of know-how: Bringing international expertise into regional training activities. Weaknesses: Long incubation time before the UETP could position itself on the regional level; limited impact on SMEs; impact on regional policy rather limited.

B FL FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

BELGIUM (Flemish)

	Subject	Summary Response
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	In general, the uptake of exchanges has been better in non-university higher education because of stronger exchange culture. In universities the exchange is mostly the initiative of the exchange student and not integrated in the curriculum. The COMETT scenarios for exchanges did not always suit the companies who are not familiar with exchanges and do not see the advantages.
3.2	Modification of Policies and Practices to Facilitate Exchanges	It is regretted that COMETT exchanges have not taken into account the activities of the already existing organisation for international exchanges.
4.1	Generating Innovative Modes of Collaboration in Training Course Development	In Flanders, there was already a rich experience of HEIC and government for setting up training and education. The international aspect is added by COMETT.
4.2	Contribution to Improvement in Supply of Technology - Related Training	The COMETT programme has clearly increased the number of programmes available. The quality of the projects has not yet been evaluated in a systematic way. It is assumed that the quality has improved the sense that courses respond more to industrial needs. It is suggested that COMETT is a good tool to bring scientific results obtained from European research projects to a broad technical audience.
4.3	Complementing / Strengthening Training Initiatives at National Level	There is an increasing internationalisation of activities for most institutions active in continuing education and connected to one or more COMETT projects. Training activities in fields that are less obvious from marketing and sales point of view could be set up.
4.4	Other Points Raised	

CH FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

SWITZERLAND

	Subject	Summary Response
1.1	Stimulating the Debate	The near simultaneous launch of special federal measures on continuing education and COMETT has meant that the latter has contributed to the national debate.
1.2	Fostering University / Enterprise Relationships	
1.3	Influence in Formulating Policies	

CH FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

SWITZERLAND

	Subject	Summary Response
1.4	Relationships / Synergy with National / Regional Programmes	A six year federal plan has provided the cantonal universities and the federal polytechnics with continuing training mechanisms. The UETPs have worked very closely with and reinforced and enlarged these structures. It has also reinforced federal policies for a stronger internationalisation of HEIs. Regional policy is not as yet fully formulated, however, it seems quite possible that bodies such as the UETPs may form an important part of this policy. They have worked well with other EC Programmes.
1.5	Overall Impact of COMETT	COMETT has been a good success.
2.1	Contribution of Regional UETP Networks	They have opened up a dialogue between the diverse actors in technology transfer and training. They also respond to regional priority issues. They bring SMEs together with both public research institutions and international organisations for co-operative work.
2.2	Articulation of Industrial Needs	
2.3	Stimulating Transnational Outlook in Partners	
2.4	Contribution of Sectoral UETP Networks	
2.5	Major Strengths and Weaknesses of UETPs in Member State	
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	
3.2	Modification of Policies and Practices to Facilitate Exchanges	
4.1	Generating Innovative Modes of Collaboration in Training Course Development	
4.2	Contribution to Improvement in Supply of Technology - Related Training	
4.3	Complementing / Strengthening Training Initiatives at National Level	

CH FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

SWITZERLAND

	Subject	Summary Response
4.4	Other Points Raised	Despite the negative vote on EU entry in Dec 1992, it is a priority objective of science and education policy to participate fully in all education, training and youth programmes as well as the 4FP. Bilateral negotiations will be opened. However, the uncertainties surrounding programmes in the coming year are demotivating and disillusioning for participants and our partners abroad: two UETPs are even considering moving to an EU Member State.

D FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

GERMANY

	Subject	Summary Response
1.1	Stimulating the Debate	A marked revival of the debate between university and industry has taken place. COMETT played some part. The central themes were: Future requirements on HEIs in view of European integration; Concepts of co-operation between HEIs and enterprise for mutual advantage; New teaching concepts in the light of rising numbers of students; Restructuring of the academic system with regard to the reduction of study periods; Stronger orientation of third level education towards the requirements of praxis in the professions and industry; Improvement in the recognition of study periods abroad and the qualifications received abroad; Significance of HEIs in continuing education.
1.2	Fostering University / Enterprise Relationships	Technology transfer centres and facilities of further training are already at the interface between HEIs and industry. In technology transfer centres COMETT stimulated transnational co-operation in Europe. Through co-operation of UETPs and centres of technology transfer, it is possible to link research and development with continuing education especially benefiting SMEs.
1.3	Influence in Formulating Policies	To facilitate COMETT, the relevant ministerial departments at Länder level took various measures to secure financial support through continuous or once-off subsidies.

D FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

GERMANY

	Subject	Summary Response
1.4	Relationships / Synergy with National / Regional Programmes	Synergistic relationships exist with regard to the trainee programme of the Carl-Duisberg-Gesellschaft and the IAESTE-programme. The Federal Ministry for Education and Science and the ministries of the Länder promote the European co-operation of HEIs. This is also the source of support subsidies for the UETPs. The Federal Ministry for Education and Science secures the basic financing of the activities of the COMETT- Information Centre regarding AiF and DAAD. The Federal Ministry for Research and Technology supports the programme "Research Co-operation" (part-programme research / personnel exchange) SMEs send their personnel to research institutes or take in research personnel from such institutes on a temporary basis and also promotes the transnational exchange.
1.5	Overall Impact of COMETT	
2.1	Contribution of Regional UETP Networks	Regional UETPs ensure a continuous co-operation between universities, associations and enterprise which is further complemented by a specific European alignment. COMETT enables industries of the region to have access to other European education and training programmes and S&T programmes. The regional UETPs create important pressure towards a more committed engagement of HEIs in continuing training. Further development of third level and continuing education courses and availability of short courses.
2.2	Articulation of Industrial Needs	Yes, especially SMEs have benefited because they lacked finance and experts. The UETP has helped with project initiation, financial development advice, project management, administration of EC subsidies, transfer of results and presentation of success results. The implementation of TNA has been the foundation for concepts of a regional continuing education strategy.
2.3	Stimulating Transnational Outlook in Partners	Regional UETPs play an important role with regard to questions of education and further training in the field of technological development and technology transfer for the strengthening of the regions. Trans-national co-operation of COMETT projects promotes the information exchange amongst the partners of the various regions. UETPs mediate between suitable European partners in regard to transnational projects.

D FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

GERMANY

	Subject	Summary Response
2.4	Contribution of Sectoral UETP Networks	There are eight sectoral UETPs: microelectronics, aluminium technology, sewage control systems, animal medicine, software technology, telecommunications and surface technology. The conditions of a closer connection between S&T in the European context are more favourable in these UETPs. In comparison to the sectoral UETP, the regional UETPs are more active in regard to continuing education. They co-ordinate European pilot projects and carry out larger development projects for third level and continuing education courses. Through the establishment of telecommunications UETP, greater know-how transfer has been achieved.
2.5	Major Strengths and Weaknesses of UETPs in Member State	Strengths: Coverage involves participation by partners from all parts of Germany. Sponsorship, mediation and care of students who undertake the practical training in their specialised field in a European enterprise. UETPs enable medium-sized enterprises access to European co-operation on a regional basis with justifiable expense and assessable time frames. They promote growing co-operation by European partners. Through regular information bulletins and participation at relevant trade fairs (Hannover trade fair, CEBIT and Media-Net) interested parties and potential applicants were made aware of COMETT. All UETPs carry out Ca-courses (short courses). Co-ordination for larger transnational projects. In some projects there is a definite synergy with research and development projects. Weaknesses 1) Of the 27 UETPs in Germany only one has a legally independent status: a prerequisite for "self-sufficiency" Little progress has been made in this respect. 2) Although most SMEs were getting involved through special measures, more is required 3) Development of special education and further-training programmes linked with R&D for SMEs is a necessity. UETPs should make this easier.
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	COMETT offers students, as well as industry, a number of advantages. Young people at the beginning of their professional careers have positive impressions from their European practical training experience which acts as multiplier for co-operation between university and enterprise. Those students will later facilitate the introduction of innovative ideas, especially in SMEs. While the realisation of practical training in industry between HEIs and industry is favourable, the personnel transfer (Bc) is still underdeveloped.

GERMANY

	Subject	Summary Response
3.2	Modification of Policies and Practices to Facilitate Exchanges	The practical training for HEI students is mostly home-based, although some is taking place abroad. Sponsorships and counselling of trainees is facilitated at many universities and is sometimes an obligation for the course. The willingness on the part of the students to complete their practical training abroad has considerably increased. Enterprises have had positive experiences with trainees from European universities. This will ensure the willingness of industry to offer practical training places in future. On account of the difficult economic situation in the new Länder only a few enterprises are in a position to offer practical training places. The personnel transfer between universities and industry is made difficult, not only because of a number of legal framework conditions, but also the design of the content of the practical training. The personnel transfer is financially unattractive to practitioners in industry, and on account of the need for longer releases of employees, it is almost negligible.
4.1	Generating Innovative Modes of Collaboration in Training Course Development	Co-operation of university with industry in the area of education and further-training is still underdeveloped. For the development of education and further-training courses COMETT benefits from the importance of European model experiments. The increased share of German facilities in the co-ordination of European courses and pilot projects shows an increasing acceptance of the COMETT approach.
4.2	Contribution to Improvement in Supply of Technology - Related Training	In respect of quantitative evaluation no direct effects can be expected from the additional COMETT bid.
4.3	Complementing / Strengthening Training Initiatives at National Level	COMETT projects complement meaningfully existing plans in specific areas like environmental protection etc. COMETT initiatives in the Germany broaden the available offer of training especially in regard to themes that concern the realisation of the EU-home market.

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D FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

GERMANY

	Subject	Summary Response
4.4	Other Points Raised	The COMETT programme should be retained as a specific programme component under LEONARDO. Universities, research institutes and industrial enterprises must be allowed to apply for COMETT on an equal basis. It is also important that sponsorship, mediation, and care of the transnational exchange of trainees in European enterprise be acknowledged by the UETPs, as it is a large central contact area between universities, research institutes and industry to be used effectively. The UETP Network has existed for seven years and it has proved itself. The "brand name" COMETT should be retained. The financing of UETPs must be guaranteed. If not, then task-oriented co-financing of individual programme components has to take its place. This could be achieved most easily by a higher overhead-share. The marker would be the currently estimated level of 20 % for EC research and development programmes.

DK FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

DENMARK

	Subject	Summary Response
1.1	Stimulating the Debate	Yes, particularly in the universities; the technical colleges were more aware of the issues. The main focus has been the need for upgrading of qualifications in industry and the importance of high level technological training.
1.2	Fostering University / Enterprise Relationships	Beyond doubt, certain relationships have formed due to COMETT but results are not sufficient to rely on development without further support.
1.3	Influence in Formulating Policies	COMETT is only one among several government tools.
1.4	Relationships / Synergy with National / Regional Programmes	The Danish "Act on Continuing Education" for levels from skilled worker to university graduate both supports and is supported by COMETT projects. The Danish "Industry Researcher Programme", which supports PhDs undertaken with industry, may work with Bb activities.
1.5	Overall Impact of COMETT	Specific national commitment and support has been "very modest". This has impacted on COMETT activities. A Ministry should take ownership, and clear lines of responsibility be developed, as well as an information centre established.

DK **FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME**

DENMARK

	Subject	Summary Response
2.1	Contribution of Regional UETP Networks	This is dependent of the objectives of the host organisation; i.e. transfer of R&D to industry *vrs* research and education of students. Those working with local industry has improved the acceptance of UETP members' graduates, created interest for university researchers working in industry, implemented training programmes and opened channels for firms to access university knowledge as well as developing wider HEI co-operation. UETPs focused only on student placement and without a stable structure of industrial involvement have proved much weaker but have been beneficial to the student and firm.
2.2	Articulation of Industrial Needs	TNA has not been undertaken by regional UETPs. Firms either do not feel UETP staff appropriate or feel it should be an in-company activity. One of the sectoral UETPs has carried out extensive TNA as a base for activities.
2.3	Stimulating Transnational Outlook in Partners	To a limited degree.
2.4	Contribution of Sectoral UETP Networks	They seem to give better value added because of specialisation and a more focused approach. They have a better mix of partners.
2.5	Major Strengths and Weaknesses of UETPs in Member State	Strengths: Membership of the European inter-UETP network for co-operation is important but strong to the North and weak to the South of Europe. Weaknesses: There is still the lack of a meaningful and economically viable concept: they still need COMETT support. Most UETPs have only reached industry indirectly with only occasional contacts and do not directly serve as a tool in improving meaningful collaboration. Insecurity has meant staff turnover increasing, weakening the networks. Industrial commitment is low and often on an ad hoc basis.
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	Student exchanges have largely resulted in companies becoming more open, although better quality control on students may be needed. Employee exchange, when it has occurred, has been very successful
3.2	Modification of Policies and Practices to Facilitate Exchanges	International companies maintain the same policy for incoming students and employees. No changes of policy are reported.

DENMARK

	Subject	Summary Response
4.1	Generating Innovative Modes of Collaboration in Training Course Development	The broker role has been noted where the UETP presents interesting European courses to industry and recommends specific universities for well defined tasks. The project manager role where the partner works on a project requiring new technology and knowledge. From this can work to develop training material. Innovative methods to develop training more quickly in fast moving fields are required. Improved and innovative distribution channels are required, particularly for the non-professional training organisation. Training projects developed by organisations with a specific training need have worked well and have strengthened relationships with partners. It has not been possible to market the courses outside the group of partners. For educational institutions, once launched, the demand for training was smaller than expected. Consultancy companies' projects within their own areas of interest have been most successful due to a) the projects are bigger with greater European collaboration b) the managers have a competence and reputation in training c) they work more closely with the end-user.
4.2	Contribution to Improvement in Supply of Technology - Related Training	Training demand is changing; companies are dismantling training departments and moving from general training to more job specific and company oriented training with a much more result oriented approach. Training is becoming tailor made, in-company. One UETP has moved to developing training after R&D contact giving closer co-operation with the company. The volume increase is small compared to the overall market. One respondent claimed short, stand alone courses to be of more benefit to the developer than industry. One company used COMETT only for non-acute training needs. COMETT quality is high.
4.3	Complementing / Strengthening Training Initiatives at National Level	The volume of COMETT activities is small. However, at a regional level, authorities are increasingly supporting continuing education and training for economic development. COMETT has played some role in this shift.
4.4	Other Points Raised	

E FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

SPAIN

	Subject	Summary Response
1.1	Stimulating the Debate	COMETT has increased debate on issues such as 1) Transnationality, 2) Skill Needs Analysis, 3) New Training Technologies In certain regions, COMETT has initiated the first formal university / industry debate and co-operation. In others, it has brought an international aspect to the debate.
1.2	Fostering University / Enterprise Relationships	COMETT has increased industry / university relations in the following specific areas: Linking Training Needs Analysis to developing training for enterprises Improving enterprises' decisions through better information on advanced training Assisting companies, particularly SMEs, in their first contact with universities. Understanding the impact of training actions on companies COMETT has a fundamental influence on higher education / industry relations, particularly with certain universities seeing the academic value of training periods in industry and the use of courses in technology transfer to firms.
1.3	Influence in Formulating Policies	Yes. At a National level it has "Europeanised" the debate and has provided institutions with a model for certain forms of training. It has also been the instigator of higher education / industry planning of short courses, while the UETPs have become involved in developing regional policy. However, the influence is very variable across Spain.
1.4	Relationships / Synergy with National / Regional Programmes	The Ministry of Education and Science provides an annual subsidy to UETPs to develop activities complementary to those of COMETT. Otherwise there are not many overlaps with other programmes. In each region the pattern varies, particularly in the autonomous regions with control over education and training.
1.5	Overall Impact of COMETT	Strong.
2.1	Contribution of Regional UETP Networks	The regional UETPs acted as: Information and management structures for EC programmes especially in human resources, education and training. Organisers of international training periods for university students Providers of an international vision on technological training, training periods in companies, new and dynamic training material, etc.

E FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

SPAIN

	Subject	Summary Response
2.2	Articulation of Industrial Needs	Yes, UETPs have helped industry define their training needs, particularly in; Launching and defining the methodological approach. Defining their training plans and choosing between training options. Drawing together the various company studies and later developing closely aligned training provision. These activities have been particularly important in the context of the SME structure of Spanish industry.
2.3	Stimulating Transnational Outlook in Partners	Very important, particularly in establishing contact with firms and technological parks. Often, this has been the first transnational experience for the associates of the UETP, especially the SMEs. Firms have also been given access to European level training products and to a wider international vision through hosting foreign students. In universities, COMETT has stimulated, at a European level, an exchange on training methodologies, teaching systems, as well as training tools and materials. It has also catalysed university participation in new R&D programmes.
2.4	Contribution of Sectoral UETP Networks	Sectoral UETPs have provided: A transnational vision to participants. European Working Groups. Official and European - level training programmes and third level courses. An analysis of sectoral technology and training supply and demand as well as an international comparative study of the situation in Spain. A communication network and a data base of training and technology. A means of advancing the technological level of firms in the UETP.
2.5	Major Strengths and Weaknesses of UETPs in Member State	Strengths: Quality of services, experience in knowledge and management of European training projects, promotion of national and international contacts, European image of the UETPs, knowledge of regional and sectoral firms' needs, relations with regional governments, and diversification of services Weaknesses: Insufficient personnel, reduced financial resources, lack of uniformity in legal structure, differences in academic regulations concerning training periods in firms (only some recognise these periods), non-innovative industry leading to weak demand for services.

E FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

SPAIN

	Subject	Summary Response
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	The mobility programmes have been very important. They have Made COMETT widely known and have assisted in the development other European projects. Developed a new higher education / industry formula for students and have improved their professional future. Such students will be an important source of innovation in Spanish firms. Developed new modes of technology transfer in knowledge, techniques and models. Reinforced the UETP network. Brought higher education / industry relations into a labour market context through a concern for professional placement. Helped in giving a comparative aspect to European higher education / industry relations. Provided new forms of human resource updating and recycling. Improved language competences, thus facilitating other forms of transnational higher education / industry co-operation.
3.2	Modification of Policies and Practices to Facilitate Exchanges	There has been little real change even if some universities have adopted co-validation and acceptance of training periods. Generally, universities have not established mechanisms for academic recognition of training periods. Equally, firms need a clear legal base for co-operating in such academically recognised training periods.
4.1	Generating Innovative Modes of Collaboration in Training Course Development	The COMETT framework for training actions (transnationality, evaluation, quality, etc.) have spread to other UETP actions and sometimes to regional actions. Equally, innovation has taken place in planning training actions based on needs analysis, in the teaching staff coming from the university, industry and international scene, and in the use of new training systems. Also innovation has been seen in training evaluation and impact analysis as well as its internationalisation.
4.2	Contribution to Improvement in Supply of Technology - Related Training	The increase in the quantity has been limited. However, in COMETT II the course quality was significantly better. This was based on better definition of demand through needs analysis.
4.3	Complementing / Strengthening Training Initiatives at National Level	COMETT has helped cover a high level specialised need in technology training. And in some cases it has helped promote training actions at a regional level as well as levering matching finance for further training actions.
4.4	Other Points Raised	

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F FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

FRANCE

	Subject	Summary Response
1.1	Stimulating the Debate	
1.2	Fostering University / Enterprise Relationships	
1.3	Influence in Formulating Policies	
1.4	Relationships / Synergy with National / Regional Programmes	There has been strong regional synergy with local bodies subscribing financially to projects and creating their own programmes. At the start, national policy and programmes were closely allied to COMETT. However, with economic and political change the two have now become more distant: COMETT is a bit "dated".
1.5	Overall Impact of COMETT	The importance of COMETT to the regions has been far greater than the simple amount in ecus.
2.1	Contribution of Regional UETP Networks	
2.2	Articulation of Industrial Needs	
2.3	Stimulating Transnational Outlook in Partners	
2.4	Contribution of Sectoral UETP Networks	
2.5	Major Strengths and Weaknesses of UETPs in Member State	Strengths: They have acted as a co-ordination and reference point for programme users. They have turned new ideas into actual European projects: the network of European partners has been most important here. Weaknesses: Their frail financial structures which are due to their small size and the absence of pluri-annual budgeting. They have had limited human resources. Their visibility has been low. Quantitative indicators of performance have been weak / absent.
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	The usefulness and simplicity of student placements have been of major benefit to enterprises, particularly SMEs. They have created a European perspective, added new competences to the enterprise and raised awareness of human resource issues, as well as providing expertise for specific projects such as technology transfer. The placement assists the student in obtaining employment and improves language ability. The placements become sources of new commercial relations and the bases of future partnerships, particularly for R&D programmes. However, the delays in selection procedures are too long. The staff placements have not been successful and should be rethought.

3.2	Modification of Policies and Practices to Facilitate Exchanges	The COMETT policies and practices have contributed to the normalisation and systematisation of placements abroad, particularly by the specification of quality parameters: length of stay, rights of both parties, etc.
4.1	Generating Innovative Modes of Collaboration in Training Course Development	COMETT has provided a transnational dimension and value added to the work. It has often strongly integrated the human factor into technological training. New links have been developed between training and R&D.
4.2	Contribution to Improvement in Supply of Technology - Related Training	COMETT has opened a European market for technical training as an integral part of improving technology transfer. It has also helped create awareness of regional poles of competence. However, the time to launch training initiatives has been too long and financial support too small.
4.3	Complementing / Strengthening Training Initiatives at National Level	COMETT has permitted HEIs to obtain foreign partners and to diversify their markets. It has also been particularly helpful to SMEs, integrating them into international networks.
4.4	Other Points Raised	Placements in the South of Europe have been difficult; the teaching of the languages of the South should be become more developed.

GR FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

GREECE

	Subject	Summary Response
1.1	Stimulating the Debate	Participation in training activities, within the framework of COMETT, has been remarkable; this participation while limited during the first years and concentrated around public services, bank and local administration, has now become impressive. The bureaucratic load on projects should be kept to a minimum. The UETP network must continue to operate and should be strengthened.
1.2	Fostering University / Enterprise Relationships	The COMETT programme is considered as one of the most successful programmes. Collaboration between higher education institutions and enterprises has been strengthened considerably within a national and international context.
1.3	Influence in Formulating Policies	COMETT has given rise to legislative regulations and communication mechanisms among universities and industry.
1.4	Relationships / Synergy with National / Regional Programmes	There is no national programme or orientation for training activities. Collaboration of higher education and industry is mainly focusing upon research.
1.5	Overall Impact of COMETT	COMETT has contributed to the change of mentality towards European programmes and created an infrastructure for the transitional collaboration and the development of training initiatives.

GREECE

	Subject	Summary Response
2.1	Contribution of Regional UETP Networks	
2.2	Articulation of Industrial Needs	
2.3	Stimulating Transnational Outlook in Partners	The development of transnational collaboration, through UETPs and other COMETT projects is considered to be the most positive experience for Greek organisations.
2.4	Contribution of Sectoral UETP Networks	Sectoral UETPs are based on the active participation of industry, especially in the sectors of food, chemicals, textile and metal products.
2.5	Major Strengths and Weaknesses of UETPs in Member State	Strengths; extensive geographic coverage (with the exception of the Aegean Islands); encouraging participation of industry; development of a new collaboration mode between university and industry; contribution to transnational collaboration and exchanges. Weaknesses; difficulties in achieving financial self-sufficiency; UETP co-ordinators have acted as training users and very rarely as training suppliers; participating universities are mainly concerned by student placements and rarely participate in the development of training packages.
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	
3.2	Modification of Policies and Practices to Facilitate Exchanges	
4.1	Generating Innovative Modes of Collaboration in Training Course Development	
4.2	Contribution to Improvement in Supply of Technology - Related Training	
4.3	Complementing / Strengthening Training Initiatives at National Level	
4.4	Other Points Raised	The report includes information about the main areas in which training is provided (such as industrial automation, production management, new production methods, product design) and the sectors that consist the primary users of training (such as food, textile, furniture, metal and chemical products, services providers).

I FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

ITALY

	Subject	Summary Response
1.1	Stimulating the Debate	Due to historical and cultural reasons, as well as a lack of specific legislation, debate between University and Enterprise is a relatively recent phenomenon in Italy. The COMETT Programme has been largely responsible for creating a quality-based framework for public debate between university and industry in the country.
1.2	Fostering University / Enterprise Relationships	In Italy, COMETT has created, through the UETPs, clear channels for systematic rather than episodic co-operation between local Universities and SMEs, Trades Associations, Chambers of Commerce and Local Government. Due to COMETT the working relationship between Universities and Industry has concentrated on supplying the established training needs of industry through courses and placements. COMETT has given the relationship a transnational dimension.
1.3	Influence in Formulating Policies	Not in any formal ways.
1.4	Relationships / Synergy with National / Regional Programmes	The growth in influence of the COMETT Programme in Italy has coincided with important and complementary modifications in national legislation. For example: Law 67 of 1988 established a framework according to which 10 % of R&D budgets to be spent on training. Recent developments of the same law encourage transnational placement in industry and centres of excellence as a vehicle for training. Law 391 of 1990 established the means by which Italian Universities could participate in joint initiatives with third parties as well as hold short vocational-based courses.

ITALY

	Subject	Summary Response
1.5	Overall Impact of COMETT	COMETT has encouraged and diffused forms of collaboration and exchange between the national system of post-secondary education and industry. The COMETT Programme has made an important contribution to developing a European dimension to university curricula and student culture (especially through the exchange opportunities offered by the Programme). The COMETT Programme offers a valid role model to mould future training policy for initial and continuing education. COMETT will encourage national policies to develop a decentralised and flexible education and training system through direct dialogue between university and industry partners as well as active co-operation in joint projects. COMETT, through stimulating debate between universities, industry R&D organisations and local and national government, has launched a forum for the discussion of education and training policy with both a national and European dimension. The model and experience supplied by the COMETT Programme in UETPs across the country will influence local policy - this is especially important in S. Italy. The work of the National COMETT Information Centre, located in the MURST, has been crucial in involving all the principal actors in the Programme and ensuring the quality standards of the Programme. The Information Centre has been especially influential in encouraging the acceptance and recognition of student exchange systems in Italy.
2.1	Contribution of Regional UETP Networks	The 13 regional UETPs in Italy have made particular progress in the dissemination of a quality approach to training and education across the country - especially S. Italy. The regional UETPs have made concrete contributions to the understanding of training needs of enterprise - and particularly local SMEs - in the country. Within the regional UETPs an entrepreneurial approach to training has developed which should ensure the long term effects of the Programme on the quality of training in Italy.
2.2	Articulation of Industrial Needs	The COMETT UETPs have systematically analysed the training needs expressed by both industry and universities. The TNA has Permitted specific methodologies to be tested on the spot. Helped companies to reflect more systematically on problems Developed debate on the need for regualr use of TNA. Helped develop short courses.

I FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

ITALY

	Subject	Summary Response
2.3	Stimulating Transnational Outlook in Partners	COMETT has been responsible for developing a collective and structured transnational approach to education and training which was largely absent in Italy before the launch of the Programme. The regional UETPs have developed different models of transnationality. Some have emphasised specific technology sectors, others have sought to involve a broad number of organisations from their region in transnational projects, others have concentrated on developing the role of Universities as catalysts of advanced level transnational training.
2.4	Contribution of Sectoral UETP Networks	The 6 sectoral UETPs have made an important contribution to the development of high quality training initiatives in their specific sectors. The sectoral UETPs represent leading technology areas in Italy such as automation and involve many of the principal organisations in the country.
2.5	Major Strengths and Weaknesses of UETPs in Member State	Strengths: high quality of personnel, team work, project creation and management; the transnational dimension; participation by SMEs; entrepreneurial ability of the UETPs; general strategy of the UETPs to become regional development agencies. Weaknesses: difficulties in carrying on discussions with local authorities, limited financial resources, lack of recognition for industrial placements in university curricula; weak role of universities in the decisions concerning UETP strategy; lack of integration of the work carried out by COMETT UETPs with that national and local agencies responsible for vocational training.
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	The principal contribution of the COMETT Programme to Italy has been the creation of the model and procedures for student exchange - previously non-existent in Italy - which have been largely responsible for setting up a practical framework for contact between Universities and enterprise. Personnel exchange improved.
3.2	Modification of Policies and Practices to Facilitate Exchanges	The value of mobility has slowly been accepted by universities, enterprise and students. In particular, since COMETT I, Italian industry has come to appreciate the value of stagiaires to the extent that demand for incoming students surpasses that of outgoing students by 25 %. Youth culture has been slow to accept transnational placement due to poor foreign language knowledge, social pressures (especially in S. Italy and for women), poor appreciation of the employment benefits of industrial experience, military service, rigidity of the university curriculum and lack of recognition of the placement.
4.1	Generating Innovative Modes of Collaboration in Training Course Development	The COMETT Programme in Italy has been influential in developing innovative models of training course development in the national context through the encouragement of universities to work on joint projects and the development of a transnational dimension in project design.

I FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

ITALY

	Subject	Summary Response
4.2	Contribution to Improvement in Supply of Technology - Related Training	COMETT has had particular impact in Italy in that it has stimulated production of highly qualified training resources (including multimedia and distance learning materials), co-operation with DELTA and contributed to a broader awareness flexible education systems.
4.3	Complementing / Strengthening Training Initiatives at National Level	The role played by COMETT UETPs in Italy has been especially influential in complementing and strengthening national training activities and policy. COMETT has acted as a catalyst in Italy to create an institutional system for collaboration between universities and enterprises.
4.4	Other Points Raised	COMETT has been successful in developing a trade mark with a clear quality standard within the Italian context. Co-operation with the Programme frequently leads partners to involvement in other EC initiatives. Italian UETPs have strong links with FORCE and TEMPUS. The success of the Programme has encouraged many universities to review their constitutions in order to recognise industrial placements formally. The COMETT Programme has also an important multiplier as regards acting as a vehicle for the transfer of technology which consolidates the role of the UETPs as effective developing agencies participating in training, R&D and development programmes for the EC and national authorities.

IRL FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

IRELAND

	Subject	Summary Response
1.1	Stimulating the Debate	The debate on higher education / industry co-operation has been ongoing since the early 1970s. COMETT has fostered the debate by adding issues involved in the training dimension and the transnational focus.
1.2	Fostering University / Enterprise Relationships	UETPs have added an extra dimension as an infrastructural network. The National COMETT Liaison Committee has been effective in bringing together, for the first time, all those (government, universities, enterprises, trade unions, etc.) with an interest in higher education, and scientific and technological training.
1.3	Influence in Formulating Policies	Assisted in bringing a EU dimension to national policies in the area.

IRL **FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME**

IRELAND

	Subject	Summary Response
1.4	Relationships / Synergy with National / Regional Programmes	Links have been established with activities under The Operational Programme for Industrial Development (1989-93) in areas concerning higher education / industry co-operation. Training needs analysis has been carried out in conjunction with regional and national institutions involved in S&T. Strong supporting relationships have been formed with the Industrial Liaison function in HEIs as well as in national S&T priority development areas. (e.g. Timber & Forestry, Marine & Aquaculture, Biotechnology.)
1.5	Overall Impact of COMETT	
2.1	Contribution of Regional UETP Networks	Their contribution has included developing; Expertise in European collaborative projects A EU dimension in regional activities A National Association of UETPs.
2.2	Articulation of Industrial Needs	All UETPs have undertaken TNAs, organising short courses and involving Irish firms in international training projects.
2.3	Stimulating Transnational Outlook in Partners	Yes. UETP activities have led to strong networks being developed around short courses and training projects often integrating and being supported by mobility activities. For small firms, it has often been the first link into transnational activities. They are supported by UETPs as they take part in larger projects.
2.4	Contribution of Sectoral UETP Networks	Only two sectoral UETPs have been co-ordinated from Ireland. Both are active in providing European wide short courses and in developing mobility programmes. They have entered and co-ordinated other EC programmes (LINGUA, TEMPUS, FORCE etc.) for their members.
2.5	Major Strengths and Weaknesses of UETPs in Member State	Strengths: Good reputation, expertise and skills developed Links to other EC Programmes and networking established Weaknesses: Lack of industrial participation due to working in a region with low geographical density of firms, at a low technological level, dominated by SMEs No government department has taken "ownership" of UETPs Uncertainty and lack of finance.
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	Student placements have 1) Introduced a transnational element to HEIs already undertaking industry placements 2) Catalysed the development of placement requirements and mechanisms in HEIs not already involved in such activities, 3) Increased student language competences, 4) Acted as the base for stronger co-operation and joint projects, 5) Provided some firms with a cultural learning experience.

IRL FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

IRELAND

	Subject	Summary Response
3.2	Modification of Policies and Practices to Facilitate Exchanges	Mostly, colleges not already undertaking placement activities have modified policies at an informal level to facilitate exchanges. Some Departments have formally modified structures.
4.1	Generating Innovative Modes of Collaboration in Training Course Development	Innovative collaboration has taken place through: The direct involvement of companies in planning and developing courses The internationalisation of the development process The development of flexible networks to undertake such work.
4.2	Contribution to Improvement in Supply of Technology - Related Training	COMETT has improved supply by encouraging HEIs to develop and supply technical training, particularly in areas where travel abroad would have been necessary. Access to international expertise has improved quality. Also open, multimedia and distance learning activities have been accelerated by COMETT.
4.3	Complementing / Strengthening Training Initiatives at National Level	COMETT has complemented ongoing activities.
4.4	Other Points Raised	Staff mobility programme is too rigid and the three month period is too long.

IS FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

ICELAND

	Subject	Summary Response
1.1	Stimulating the Debate	COMETT has strongly stimulated the debate. It has provided an acceptable European forum for a debate which had previously been fraught with mutual suspicion and has helped legitimised in industry's eyes much of the HEI expertise existent in Iceland. It has provided part of the basis for a dialogue on higher education / industry relations.
1.2	Fostering University / Enterprise Relationships	Due to the SME nature of Icelandic industry, COMETT has had to work with industry and professional associations at an administrative level. Specific firm contact takes place during projects and placements. The direct contact nature of Icelandic society has meant that COMETT may initiate contacts but then ceases to be an intermediary. The programme has catalysed various training, research and placement activities.
1.3	Influence in Formulating Policies	There has been no direct influence, but national policy makers have been aware of COMETT activities and philosophy.

ICELAND

	Subject	Summary Response
1.4	Relationships / Synergy with National / Regional Programmes	The Ministry of Social Affairs' Training Assistance Scheme has supported individuals taking COMETT courses. COMETT has also conducted several surveys for the training of craftspersons in close co-operation with the Ministry of Education.
1.5	Overall Impact of COMETT	It has; Accelerated contacts with universities and firms across the EEA. Had a strong effect in focusing HEIs on the need to market their education, training and research to industry. Developed better industrial awareness of university graduate recruitment Improved quality and accelerated development particularly in the aquaculture and fisheries industry.
2.1	Contribution of Regional UETP Networks	There is only one UETP in Iceland. It has undertaken TNA and has developed and run courses to alleviate these needs. It has promoted conferences on higher education / industry relations.
2.2	Articulation of Industrial Needs	This has been particularly strong in the fish processing industry.
2.3	Stimulating Transnational Outlook in Partners	Iceland has always been very internationally minded with a tradition of seeking technical education and training abroad. COMETT acted as a conduit for this ready made market.
2.4	Contribution of Sectoral UETP Networks	Iceland has only one regional UETP, although it has specialised in the fish producing and processing industry.
2.5	Major Strengths and Weaknesses of UETPs in Member State	Strengths: Participation of the industrial and professional associations with direct access to firms and the strong moral and financial support of the University of Iceland. Weaknesses: A lack of direct contact with firms and a very insecure financial base.
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	Difficult to ascertain.
3.2	Modification of Policies and Practices to Facilitate Exchanges	Icelandic universities and enterprises only formalise policies and practices after an extended trial period. They have been open to COMETT but have not formalised mechanisms.
4.1	Generating Innovative Modes of Collaboration in Training Course Development	COMETT has pioneered the practice of undertaking TNA and then discussing the best means to alleviate the needs with industry It has also pioneered the extensive preparation of quality training programmes with international university experts and enterprise leaders.
4.2	Contribution to Improvement in Supply of Technology - Related Training	Quality training courses have been developed. However, not enough courses have been available nor have new modes of training delivery been sufficiently exploited. The training of trainers has also been emphasised.

IS FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

ICELAND

	Subject	Summary Response
4.3	Complementing / Strengthening Training Initiatives at National Level	COMETT has added a new dimension to training (rather than simply complementing it) through TNA, high quality course preparation and training of trainers.
4.4	Other Points Raised	Institutional separation of research centres from the university and then the lack of graduate courses until 1991 limited the potential for co-operation.

L FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

LUXEMBOURG

	Subject	Summary Response
1.1	Stimulating the Debate	Higher education / industry relations had been developed before COMETT. However, COMETT has had an indirect, catalytic effect on higher education / industry relations. It has drawn attention to the importance of transnational co-operation.
1.2	Fostering University / Enterprise Relationships	COMETT is becoming better known. Its good administration has encouraged firms to participate in further EC programmes.
1.3	Influence in Formulating Policies	COMETT activities drew attention to the lack of national co-ordination in the area of collaboration between national firms and foreign universities and have encouraged the development of common actions in the Sarr-Lor-Lux region.
1.4	Relationships / Synergy with National / Regional Programmes	The UETP has supported the QUALIF programme on quality management of informatics projects between firms and national bodies.
1.5	Overall Impact of COMETT	COMETT has had a concrete, initiating role in developing SITec as a central role within the CRP-Henri Tudor. SITec is a platform for new techniques in intensive courses. The UETP has brought together technical innovation bodies with an interest in training.
2.1	Contribution of Regional UETP Networks	Luxembourg has only one regional UETP covering the whole country.
2.2	Articulation of Industrial Needs	Yes, sectoral TNA studies have been undertaken.
2.3	Stimulating Transnational Outlook in Partners	Yes, through giving courses an international element. Also through alerting firms to the European dimension of R&D as well as training.
2.4	Contribution of Sectoral UETP Networks	No sectoral UETP exists.

L

FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

LUXEMBOURG

	Subject	Summary Response
2.5	Major Strengths and Weaknesses of UETPs in Member State	Strengths: Its partners have included the professional associations which has make for credibility and ease of approach to firms. Other partners have included the ITS, CU and the CRPs. All partners have been active in national and EU R&D and thus permit the UETP to link training and research. Weaknesses:
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	COMETT has created higher education / industry links. Often for SMEs, it has been their first contact with a European programme and has encouraged them to move onto R&D programmes.
3.2	Modification of Policies and Practices to Facilitate Exchanges	Placements in firms have become more systematic.
4.1	Generating Innovative Modes of Collaboration in Training Course Development	Yes, most notably in the development of SITec as a platform for short courses.
4.2	Contribution to Improvement in Supply of Technology - Related Training	Under COMETT, the CRC-CU has developed short courses for industry, as has the Chambre des Metiers: the latter particularly for SMEs
4.3	Complementing / Strengthening Training Initiatives at National Level	Currently, higher education is undergoing reform and enlargement Following such reform it is expected that LEONARDO will complement in even larger degree the national training effort.
4.4	Other Points Raised	The full cycle of third level education is absent from Luxembourg with only l' Institut Superieur de Technologie (IST) and le Centre Universitaire du Luxembourg (CUL). Thus, firms tend to look abroad for higher education / industry co-operation. Since the economic difficulties of 1992, students have become more interested in training placements and firms more careful about their relevance. 50 % of work force is from abroad. Only since the establishment of Centres de Recherche Publics (CRP) in 1987 has new and high technology training become available

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NL FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

NETHERLANDS

	Subject	Summary Response
1.1	Stimulating the Debate	COMETT has never played a major part in any national debate on higher education / industry co-operation. This is due to COMETT's modest budget and the rich tradition of post-tertiary continuing education for industry. Equally, before COMETT there was a great deal of contact between universities, hogescholen and companies. On top of this, there is a comprehensive set of measures for the development and dissemination of new technologies particularly to SMEs.
1.2	Fostering University / Enterprise Relationships	COMETT plays a supporting rather than a leading role.
1.3	Influence in Formulating Policies	Not as yet.
1.4	Relationships / Synergy with National / Regional Programmes	It has not yet resulted in the formulation of new national or regional policies or links with complementary national or regional programmes. However the Ministry has provided financial support for the UETPs
1.5	Overall Impact of COMETT	Weak due to already developed higher education / industry structures and modest financial resources, but has contributed to European dimension of training.
2.1	Contribution of Regional UETP Networks	Experience is still limited and variable from UETP to UETP. COMETT / UETPs help with industrial "cluster" strategies.
2.2	Articulation of Industrial Needs	The "round tables" have been particularly helpful. TNAs have not always been carried out.
2.3	Stimulating Transnational Outlook in Partners	Particularly for the hogescholen, with the universities it was more a case of co-ordination of existing activities.
2.4	Contribution of Sectoral UETP Networks	Appear to be successful when they grow from a basis of existing co-operation. They fit in well to advanced education system.
2.5	Major Strengths and Weaknesses of UETPs in Member State	Strengths: *Regional UETPs* - a close relationship with other intermediary organisations, provincial authorities and companies - concrete and visible results from international co-operation - knowledge of European expertise and ability to tap as required. *Sectoral UETPs* - Adding the international dimension. Other strengths include the supranational character of COMETT and links to the Commission as well as spin-off benefits to other programmes and activities. Weaknesses: Lack of funding for activities, Regions too large, Industrial partners not committed enough, Industry has low awareness of COMETT, Rapid turnover of UETP staff, Difficulties in industrial contact greater in the regional UETPs.
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	One UETP has set up "Local Strategy Committees" with partner industries to oversee exchanges and influence course content. Here course and placements have been integrated. Others point to a much more modest scale of innovation.

NL FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

NETHERLANDS

	Subject	Summary Response
3.2	Modification of Policies and Practices to Facilitate Exchanges	More attention is now devoted to such practical matters as housing, the structuring of the contacts (a policy of networking instead of informal contacts) and the planned provision of student intern projects as part of the operation of businesses, etc.
4.1	Generating Innovative Modes of Collaboration in Training Course Development	COMETT has internationalised a number of training course activities and has helped orient trainers to training at an international level. More demand-driven courses have been developed due to company involvement.
4.2	Contribution to Improvement in Supply of Technology - Related Training	Quality has improved in course development through interchange of ideas. European level quality guarantees have been developed by preventing major discrepancies in the different universities and establishing a common core curriculum (on which exchanges are based). Inspectors have been appointed to monitor quality. The range of courses available has grown, both in the Netherlands and Europe as a whole along with courses delivered in a greater variety of ways.
4.3	Complementing / Strengthening Training Initiatives at National Level	This has been achieved through making training activities more international in nature and increasing interest and participation of SMEs
4.4	Other Points Raised	Call for simplification of regulations and procedures surrounding mobility schemes. Sanctions and reporting after-the-fact could also greatly improve the efficiency of the programme. Call for better co-ordination of EC technical education / training programmes offered by many EC Programmes. The strict separation between higher level education / COMETT and upper vocational level is seen as unproductive.

The Netherlands delegation indicated that their evaluation would be identical to that undertaken in 1993. This, the 1993 evaluation is used, along with their submission "Comments for 1994 to be added to those given for 1993".

N FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

NORWAY

	Subject	Summary Response
1.1	Stimulating the Debate	The debate on university-enterprise collaboration has gradually intensified, but it would be out of proportion to say that COMETT has been instrumental in the discussion; the debate was well under way ... At the same time, numerous new higher education / industry working relationships have been some of the tangible results.

N FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

NORWAY

	Subject	Summary Response
1.2	Fostering University / Enterprise Relationships	Yes, many new working relationships.
1.3	Influence in Formulating Policies	Not strong at a national level, but important at the regional policy and planning level.
1.4	Relationships / Synergy with National / Regional Programmes	At a national level; The 1991 White Paper on Higher Education argued for closer internal collaboration between the educational institutions in an integrated "Norwegian Network" as well as collaboration with external institutions, but there has been no national programme. The Norwegian Research Councils have university / industry technology transfer programmes. The Ministry of Industry wishes better collaboration between research institutes and universities. The Norwegian Long Term Plan 1994-97 seeks "to spread available technology and competence to companies.. (and a) More rapid updating and renewal of technical and professional skills.." The 1993 National Budget noted "International collaboration in higher education must be strengthened including participation in international education programmes.." Thus there has been a close similarity between the objectives of the COMETT Programme and national objectives. At a regional level; The role of COMETT in the development and implementation of regional and county strategic plans in Norway should be stressed. Where these had already been prepared, for example in Western Norway, COMETT has become an important tool for implementation; in other cases COMETT's objectives are being adopted as part of the premises for plans currently in preparation.
1.5	Overall Impact of COMETT	Membership of COMETT has provided technology transfer and training with a European aspect which would otherwise have been lacking or would have had to be laboriously constructed, using national resources and on purely national terms; hardly the optimal point of departure for the creation of an international programme of co-operation.
2.1	Contribution of Regional UETP Networks	They have encouraged regional co-operation between regional business interests and the established education and training system. They have brought a European dimension to a university's traditional industrial liaison and continuing education functions. They have developed a nation-wide information distribution network through technical journals and newsletters as well as annual conferences on technical skills. They have also development of courses and arranged student placements. They have moved from training co-operation to RTD projects and developed sectoral activities.
2.2	Articulation of Industrial Needs	The activities of the UETP have varied from direct TNA and subsequent course development to support to industry in its own efforts: as one UETP put it; "Help towards self-help".
2.3	Stimulating Transnational Outlook in Partners	This has been a major success of all UETPs. Sectoral UETPs have from the start been transnational. Regional UETPs have, however, also been successful.

N FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

NORWAY

Subject	Summary Response
2.4 Contribution of Sectoral UETP Networks	The two sectoral UETPs have been based at the Norwegian Institute of Technology (NTH) in Trondheim with very close connections to SINTEF, the large contract research institute on the same site. The UETPs have added to the international character and activities of this large technology complex through international TNA, short courses, student and staff exchanges and have gone on to develop larger RTD projects outside COMETT.
2.5 Major Strengths and Weaknesses of UETPs in Member State	Strengths: The strong European network developed. The support of the Norwegian government and regional authorities. The active commitment and support of the NTH for three of the UETPs. The active support and participation of the Norwegian Society of Chartered engineers (NIF) and the Federation of Norwegian Engineering Industries (TBL). Weaknesses: Budget allocation requirements were underestimated.
3.1 Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	Mobility actions have been used by partners in larger COMETT and other projects as a means of both cementing and developing co-operation.
3.2 Modification of Policies and Practices to Facilitate Exchanges	The Norwegian government have made granting of work and residence permits to COMETT students de facto. Agreements with Student Accommodation Offices greatly facilitated incoming students. Agreements with the Universities gave COMETT students full student rights (travel rebates, student activities, etc.). The TBL recommended student placements to its members. Improvement in student placement practices.
4.1 Generating Innovative Modes of Collaboration in Training Course Development	Courses have been developed from the start for a European audience and with a European dimension. Some courses have developed from other EU investment (e.g. ESPRIT II). Extensive use of new techniques, software programmes and simulation tools have been incorporated. COMETT activities have been both a practical instrument and a catalyst.
4.2 Contribution to Improvement in Supply of Technology - Related Training	The emphasis has been on quality improvement. COMETT has introduced a number of "quality partners" into the development of courses and continuing education activities who would, otherwise, not have been available in Norway.
4.3 Complementing / Strengthening Training Initiatives at National Level	The close similarity between the objectives of COMETT and national objectives in the field of technology transfer and training have ensured complementarity.
4.4 Other Points Raised	The 1991 White Paper on Higher Education argued for closer internal collaboration between the educational institutions in an integrated "Norwegian Network" as well as collaboration with external institutions, but there has been no national programme. The Norwegian Research Councils have university / industry technology transfer programmes. The Ministry of Industry wishes better collaboration between research institutes and universities.

P FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

PORTUGAL

	Subject	Summary Response
1.1	Stimulating the Debate	To a certain extent, COMETT has contributed to the stimulation of the debate, developing new ideas and suggestions and increasing the awareness of the importance of technology transfer.
1.2	Fostering University / Enterprise Relationships	COMETT has contributed to the improvement of national and international contacts between universities and enterprises in training and technology transfer.
1.3	Influence in Formulating Policies	The establishment of the COMETT Information Office in the Conselho para a Cooperacao Ensino Superior Empresa (CESE - the office in charge of the proposal of procedures and policies to improve higher education / industry co-operation) has been critical to COMETT's success in Portugal. There is a proposal to integrate similar higher education / industry co-operation into other national programmes based on the COMETT experience.
1.4	Relationships / Synergy with National / Regional Programmes	The CESE recommended the public support of UETPs to establish better synergy with national programmes. In parallel with COMETT, it has also organised two major higher education / co-operation conferences each year. COMETT activities have also inspired CESE to launch a national training placement programme for degree level people into enterprises and organisations in other EU & EFTA States. It will use much of the information and skills acquired from the COMETT Programme.
1.5	Overall Impact of COMETT	Certain pre-established R&D and technology transfer consortia have spread out into training. Setting up higher education / enterprise interfaces devoted to technical training The integration of transnational industrial placements into course structures. An innovative dialogue between HEIs and enterprises leading to more "tailor made" courses.
2.1	Contribution of Regional UETP Networks	The contribution has been 1) The development of dedicated regional HEI / industry interfaces, but dominated by universities. 2) The addition of an international dimension to these interfaces, previously very weak. 3) Expanded activities to other EU and National programmes (PEDIP, PRODEP, etc.). Two UETPs have moved to work with regional authorities in regional development. One ~~UE~~TP has set up as series of technology transfer centres across its region.
2.2	Articulation of Industrial Needs	COMETT support for studies on training skills requirements, particularly SMEs, contributes usefully to this issue.
2.3	Stimulating Transnational Outlook in Partners	The UETPs / COMETT have strengthened links to HEIs and industry abroad giving new R&D and training partners. Similarly for firms, it has brought international contacts and potential markets as well as being a door to other European Programmes. However, firms, particularly SMEs, have a poor input to programme development.

P FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

PORTUGAL

	Subject	Summary Response
2.4	Contribution of Sectoral UETP Networks	The six sectoral UETPs (textiles, agribusiness, mining, telecomms, biotech) have produced courses, training material, books, directories, etc. and have exchanged students and strengthened links across Europe.
2.5	Major Strengths and Weaknesses of UETPs in Member State	Strengths: The transnational dimension of UETP activities. The development of a professional management structure. Specialisation in international technology training Weaknesses: UETPs still largely depend on vulnerable financial support. Most sectoral UETPs have a confused legal status. Lack of public awareness and recognition of their potential within the new EC education and training programmes.
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	Increased student interest in placement abroad. Added European dimension to student training. Mobility has also contributed to development of a European university / enterprise technology transfer network. However, there is still a lack of recognition of student placements within academic curricula. Also, a lack of real supervision of training work by universities and enterprises. Personnel exchanges, especially enterprise to university, still difficult due to problems for enterprises in matching personnel training needs to university training methods and release for long periods.
3.2	Modification of Policies and Practices to Facilitate Exchanges	Weak. More university participation and responsibility for student exchanges needed. Also consistent structural and curricular recognition of transnational industrial placement required.
4.1	Generating Innovative Modes of Collaboration in Training Course Development	A strengthening of transnational development of and participation in training activities.
4.2	Contribution to Improvement in Supply of Technology - Related Training	An improvement of quality and quantity of training materials on the market. However, impact limited due to low level of demand (and supply) of technology related training in Portugal.
4.3	Complementing / Strengthening Training Initiatives at National Level	Although impact limited, final results will depend on the synergy and complementarities between specific COMETT training issues and national, regional and local programmes.
4.4	Other Points Raised	—

SW

FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

SWEDEN

	Subject	Summary Response
1.1	Stimulating the Debate	Marginally on the national level, some on the regional and local level. The Programme is small. Also the economy has been depressed.
1.2	Fostering University / Enterprise Relationships	Little, apart from those directly involved. Un versities already have strong continuing education units. However, the fostering of international relationships for Swedish universities and companies has been new.
1.3	Influence in Formulating Policies	None on the national level. Some on the regional level.
1.4	Relationships / Synergy with National / Regional Programmes	Not very much. Some synergy between university continuing education programmes and UETPs.
1.5	Overall Impact of COMETT	The overall impact has been small. Strand B has been the true success, particularly for the larger SMEs. Networks developed will be used for other projects. COMETT has also improved understanding of EU.
2.1	Contribution of Regional UETP Networks	Contribution outside of the companies and universities directly involved has small. These UETPs have had an identity crises. However, indirect contributions include Diffusion of information Increased marketing for technology & training European arena for co-operation and political pressure (sectoral)
2.2	Articulation of Industrial Needs	Most UETPs have tried. However, many organisations are active in this field.
2.3	Stimulating Transnational Outlook in Partners	Yes, to a certain extent, mainly through demonstration.
2.4	Contribution of Sectoral UETP Networks	Fairly little, apart from the effects of courses given and students placed. But they have functioned well.
2.5	Major Strengths and Weaknesses of UETPs in Member State	Strengths have been the devotion of UETP people and the ability to work in a trans-European perspective and to support other programmes Weaknesses have been the lack of involvement of industry, especially SMEs, and the inter-regional transfer of experience.
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	No, there has been nothing fundamentally new in student placements. The other placements have hardly been used.

SW FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

SWEDEN

	Subject	Summary Response
3.2	Modification of Policies and Practices to Facilitate Exchanges	Increased dedication to finding places for students in bigger companies. Some of these have used COMETT to try out potential employees in subsidiaries abroad. Some SMEs have experienced foreign students for first time. Increased sensitivity to cultural differences. Swedish Foreign Office has licensed a fast / simplified way for student work permits and residence.
4.1	Generating Innovative Modes of Collaboration in Training Course Development	Marginally. The innovation has been contained in the preparatory work - discussions and negotiations around the application and the formulation of the "order" to university teachers. The rest has been normal. With sectoral UETPs, the influence of industrial branches has been stronger in training development. An IT network has been set up (initially for information and partner search) and is looking towards use for in-situ training for industry.
4.2	Contribution to Improvement in Supply of Technology - Related Training	Marginally. However, quality control has become an important and conscious issue as courses have to be given by different teachers in different countries.
4.3	Complementing / Strengthening Training Initiatives at National Level	Marginally.
4.4	Other Points Raised	COMETT has been in operation too short a time to judge it. Its scale has been too small for a major impact. Perhaps a clearer differentiation between UETPs is necessary. For example, sectoral UETPs specialise in course production and supply to regional UETPs organising demand at a local level. Reuse of courses developed has been very low. UETP network should be saved and networks secured.

SF FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

FINLAND

	Subject	Summary Response
1.1	Stimulating the Debate	Because there has been a strong higher education / industry tradition of co-operation, exchange and placements in Finland, COMETT is not seen to have had any significant impact at a regional or national level on the debate, higher education / industry relations, or formulating policies. The innovative effects have been at the transnational level.

1.2	Fostering University / Enterprise Relationships	Established tradition in university / enterprise co-operation gave a good starting point for the implementation of the programme. Experience in the European context has been gained.
1.3	Influence in Formulating Policies	Regional and national policies already take for granted the importance of higher education / industry relations.
1.4	Relationships / Synergy with National / Regional Programmes	There has been strong synergy with the National Programme to increase the transnational activities of the Institutes of Technology. Two thirds of outgoing Ba students have been from such Institutes. The Ministry of Education has provided special bonus moneys to academic universities which increase their transnational activities. Participation in COMETT is now one of the criteria for such awards.
1.5	Overall Impact of COMETT	Experience in co-operating in an EU context, both for authorities as well as for organisations participating in the Programme. A solid base of successful participation in an EC Programme as a base for future work.
2.1	Contribution of Regional UETP Networks	They have bridged the gap between Brussels and participating Finnish organisations, particularly for enterprises.
2.2	Articulation of Industrial Needs	All UETPs have undertaken SNA leading to the formulation of new projects.
2.3	Stimulating Transnational Outlook in Partners	They have stimulated and assisted international co-operation, very often turning a national project into a European one.
2.4	Contribution of Sectoral UETP Networks	The two sectoral UETPs have had a visible impact on training in their respective sectors.
2.5	Major Strengths and Weaknesses of UETPs in Member State	Strengths: Close co-operation between UETPs and with Information Centre, supplementary funding to UETPs to prepare for LEONARDO Weaknesses: Not full UETP coverage of the country, economic recession has limited extension of industrial partners. Because COMETT was the only programme in which Finland was able to participate, UETPs have been restrained to working mainly with COMETT.
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	There has been a long tradition of student placement abroad. Thus COMETT has provided a new channel rather than a full innovation. However, particularly for the Institutes of Technology, COMETT has provided an efficient means to increase high quality placement. Expert exchanges (Bc), while not new, have been appreciated as one of the most useful activities in COMETT. In 1994, Finland was the second biggest sending country in COMETT!
3.2	Modification of Policies and Practices to Facilitate Exchanges	The decentralised nature of COMETT has encouraged individual officers in universities taking care of international affairs to take initiatives and more responsibility in arranging placements. Previously most work was centralised. Enterprises have moved from an approach of charity towards accepting students towards recognising their real added value.
4.1	Generating Innovative Modes of Collaboration in Training Course Development	

4.2	Contribution to Improvement in Supply of Technology - Related Training	COMETT has not had any major impact at a national level due to the small number of projects. However, courses which would have been only national have been made European. Courses have been held in English for foreign participation. Material produced has been recognised as useful by industry.
4.3	Complementing / Strengthening Training Initiatives at National Level	COMETT has effectively contributed to increasing European co-operation and has helped create new contacts and new forms of collaboration.
4.4	Other Points Raised	

UK FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

UNITED KINGDOM

	Subject	Summary Response
1.1	Stimulating the Debate	Universities generally believed COMETT had added some impetus to the debate on higher education / industry collaboration. However, many noted that the debate had gone on long before COMETT. 43 % of enterprises thought COMETT successful in this area. 36 % disagreed. 58 % of regional and 71 % of sectoral UETPs though that COMETT had made a worthwhile contribution.
1.2	Fostering University / Enterprise Relationships	Most universities believed that COMETT had made a worthwhile contribution. It had increased links both locally and across Europe. Some enterprises thought that COMETT had produced only minimal new collaborative ventures. Some thought that COMETT-developed university / industry links had introduced new ideas into the workplace. 70 % of all UETPs felt that they had made a worthwhile contribution in this area. Areas ranged from student placement to creating new transnational links, to SNA and TNA at regional and sectoral level, to issues of graduate employment.
1.3	Influence in Formulating Policies	49 % of universities thought COMETT did not influence policy; most policy was already well developed. 36 % of firms thought COMETT has had some or considerable influence on their policy towards universities. Only 25 % regional and 14 % sectoral UETPs thought that COMETT had some or considerable influence. However, many felt that the indirect influence had been important. COMETT complemented and enhanced existing models of higher education / industry collaboration
1.4	Relationships / Synergy with National / Regional Programmes	Half the universities were involved in national / regional policy similar to COMETT. Some were members of TECs. For firms, the main examples of COMETT benefits were access to providers of European expertise and a greater awareness of European training issues. 44 % were involved in similar activities. 77 % regional and 60 % sectoral UETPs reported establishing links between COMETT and other national / regional policies sharing complementary aims.

UK FINAL NATIONAL EVALUATIONS OF THE COMETT PROGRAMME

UNITED KINGDOM

	Subject	Summary Response
1.5	Overall Impact of COMETT	Universities generally believed COMETT to have little impact, even locally. However, the international aspects were seen to give credibility to EU training policies. Some thought it had improved technology skill in local companies. Half the firms felt that COMETT had made a worthwhile impact on their own company particularly through the student placement, opening up new skills and awareness of the EU market. Companies felt that the overall regional impact of COMETT was small. UETPs felt that impact was limited by insufficient funding being available to generate large scale interest and participation.
2.1	Contribution of Regional UETP Networks	Universities thought UETPs most relevant at a regional rather than national level. UETPs were effective at marketing COMETT. Newsletters, meetings, placements, short courses were all useful. Generally, companies recognised the need for university - enterprise networks and saw UETPs as one of the catalysts in this area. All UETPs saw a need for higher education / industry networks which would develop transnational links and provide information on EU training opportunities.
2.2	Articulation of Industrial Needs	Over half the Universities believed that UETPs had little or no effect in helping enterprises communicate their needs: many other routes existed. For firms, UETPs helped in TNA and in raising the profile of training in the company. UETPs provided little clear evidence that they themselves had been helpful in this area: 54 % of regional UETPs though little had been achieved.
2.3	Stimulating Transnational Outlook in Partners	Universities believed UETPs helped them to look beyond national boundaries establishing links with other universities and enterprises across Europe. For enterprises, UETPs found partners abroad and provided EU students for placement. 61 % of regional and all sectoral UETPs thought they had contributed some or a great deal to encouraging transnational co-operation.
2.4	Contribution of Sectoral UETP Networks	Sectoral UETPs' contribution was not strongly differentiated from regional UETPs. They did, however, seem to have closer and more frequent contacts with companies.

	Subject	Summary Response
2.5	Major Strengths and Weaknesses of UETPs in Member State	Universities believed UETPs strengths lay in their extensive contacts with other UK & EU UETPs, universities and enterprises. Also, their commitment to industrial development and catalytic stimulation of university / industry interaction. Weakness lay in insufficient funding and sometimes in not being firmly enough linked into their own regional structures. For enterprises, UETPs' strengths lay in their ability to bring European organisations together and provide the latest on EU technology training activities. Also, the provision of European placement opportunities. The weakness lay in the lack of communality between sectoral and regional UETPs and the funding process which made long term planning difficult. Communication through promotion and publicity was poor. Low awareness of UETP existence. Regional UETPs saw their strengths as: networking, expertise in mobility programmes, links with the Commission, project management, an access point for all to HEIs, enterprises and EC Programmes. Weakness were insufficient funding , dependence on EC funding and inability to generate other funding, difficulty in retaining industry's interest, being all things to all, etc. Sectoral UETPs strengths included; a clear mission, good support from HEIs, industry and EC. expertise in EC funding and project management. Weaknesses included; relatively poor industry links and a poor commercial orientation as well as poor links with some countries.
3.1	Contribution of Mobility Actions to Innovations in University / Enterprise Co-operation	Just over half the Universities believed student placements had contributed to such innovation. Two thirds of enterprises felt that they had benefited from having the placement; breaking down national barriers and opening up marketing opportunities as well as the specific technical element contributed. 85 % of regional UETPs felt that student placements had contributed to innovation: establishing new links, increasing interest and demand for students, linking companies to new markets, benefiting universities and linking enterprises to a large pool of well motivated students, etc.
3.2	Modification of Policies and Practices to Facilitate Exchanges	Half the universities modified policies or practices ranging from greater academic recognition for placements to modification of placement procedures. Half the firms surveyed had made modifications. About three-quarters of UETPs thought universities and enterprises had made such modifications: flexibility in course design, assistance to lecturers in visiting students abroad, insurance policies, better language preparation, etc. Enterprises had become more flexible in planning and defining work programmes, etc.

UNITED KINGDOM

	Subject	Summary Response
4.1	Generating Innovative Modes of Collaboration in Training Course Development	Universities were evenly divided as to whether COMETT had made innovative contributions. 70 % of firms thought COMETT had made little or no impact in innovation. Of UETPs, only 16 % of regional and 57 % of sectoral UETPs thought that some or a great deal had been achieved. This failure was due to insufficient Strand C funding and lack of availability of SME staff time.
4.2	Contribution to Improvement in Supply of Technology - Related Training	Universities were evenly divided as to whether COMETT had contributed. In terms of quantity or quality of training, enter prises felt that COMETT had made little or no contribution. About half the UETPs felt that COMETT had made a contribution to quantity and quality through access to a wider group of experts, adding European value, levering other funding, etc.
4.3	Complementing / Strengthening Training Initiatives at National Level	Universities were evenly divided as to whether COMETT had contributed. 59 % of firms felt that COMETT complemented their own training activities. Sectoral UETPs were more positive than regional UETPs: 57 % thought some or a great deal had been contributed.
4.4	Other Points Raised	Conclusion: ... the COMETT programme (has) generally been successful in helping to increase awareness of Europe in education and training... (but) has been very modest in scope when compared with complementary regional and national actions.. The main value added by COMETT has been to open up the practice of placements to a wider range of companies.... It has also helped to establish new contacts between universities in this country and companies in other Member States or in EFTA countries.

The UK Government's Final Evaluation Report was undertaken by surveying and reporting separately the views of universities, enterprises, UETPs and pilot project co-ordinators. The Survey response is given as three separate responses 1. = Universities, 2. = Enterprises, 3. = UETPs.

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